



**A Workbook of Design Options for Sustainable Development:
Atkins Corner Plan**

2002

Atkins Corners Sustainable Development Plan

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Looking Northeast over the existing Atkins Country Farm Market and the intersection of Rt. 116 and Bay Roads. Epstein's Pond is on the right and Rt. 116 runs diagonally from the bottom right to the upper left of the image.

“Today a powerful idea is at hand that may provide the general guidance humankind needs now. That idea is sustainable development, the awareness of which is sweeping the world. The concept contains two powerful ideas. The first is that of survival (sustainability) at a time when this seems far from certain in either the human or the natural contexts. The second is the old Greek idea of development, of various kinds of betterment for humans at a time when complacency and consumption have overshadowed human connections to natural systems”(J.G. Nelson as quoted in Guiding Principles of Sustainable Design, National Park Service Publication NPS D-902).

Chapter 1 - Introduction

History and Purpose of the Project

This report is the product of a participatory planning process to develop a Plan for the specific Atkins Corner area of Amherst. The intention is that this Plan would then be used as a model to generate guidelines for sustainable development that could be applied to other village center or compact development areas throughout Amherst. The aim has been to guide and inform future development of a new center at Atkins Corner in such a way that it would be sustainable, in character with its surroundings, economically vital and likely to work as a whole.

A second important objective was to try to reach a level of community consensus around a specific plan so that the community could visualize the choices and would support the Town's efforts to work with the developers and designers to build there in a way producing a superior and more sustainable result.

The Atkins Corner area has been designated as a future "village center" since the 1970's. The Town of Amherst has been actively working with the two owners of the parcels that immediately surround the Route 116 and Bay Road intersection. These owners are Atkins Country Farm Market and Hampshire College. Both of these property owners have

indicated that they have an interest in developing some areas of these parcels and the Town took the initiative to join with them to form the Atkins Corner Working Group over three years ago. This Group together with other community members has been working to create a consensus-driven plan and shared vision for the area and to identify the necessary steps to realize it. The community, Town Staff and Board members and members of such professional groups as designers and architects had also spent over two years on generating ideas and identifying possible development approaches when this model project started in August of 2001.

An important part of this previous process was the preparation of an excellent study with extensive site analysis information and drawings published in April of 1998. The Atkins Corner Village Center Study was authored by Justin Molson, Wynne Wirth and Matthew Arnsberger, students at the Conway School of Landscape Design, under contract to Hampshire College, the Town of Amherst, Atkins Farm Country Market and the Pioneer Valley Planning Commission.

Preparation of this Model Plan for Atkins Corner is the most recent planning initiative in an ongoing process stretching back to Spring of 1997. It has been funded by a grant to the Town of Amherst under the Livable Communities Grant program of the United

States Environmental Protection Agency. The Amherst Planning Department issued a Request for Proposals in November, 2000 and together with the Atkins Corner Working Group selected the Dodson Associates Consultant Team.

The Consultant Team, in consultation with the Atkins Corner Working Group, was charged with designing and facilitating three Community Workshops focused on evaluating sustainable development options for the Atkins Corner area. Based on these workshops and their review of past studies, charrettes and local regulations or zoning the Consultants would recommend alternatives for the Atkins Corner area and prepare two publications. This Workbook of Design Options for Compact Development is the first report and is intended to be a "development guide" for the specific 59 acres of land at Atkins Corner.

Sustainability Defined

The first question almost everyone asks is "How do you define sustainable development?" The most prevalent definition of sustainability can be traced to Our Common Future, the 1987 Report of the United Nation's World Commission on Environment and Development also known as the Brundtland Commission. This Report defined sustainable development as "to meet the needs of the present without compromising the ability of future generations to meet their own needs." We would go even further to suggest that this means all sustainable development should not be reactive in nature and stop at simply "doing no harm" but should be proactive in nature. In this way it would actively seek to re-integrate our local culture with nature, to strengthen and heal both systems and to educate about their essential interconnectedness.

Other definitions of sustainable development abound. Michael Mahaffy of the School of Architecture at Washington State University has identified three definitions of sustainability that are more specific than the well-established Brundtland Commission definition:

A. **"Sustainable means using methods, systems and materials that won't deplete resources or harm natural cycles"**

(Rosenbaum, 1993)

B. **Sustainability "identifies a concept and attitude in development that looks at a**

site's natural land, water, and energy resources as integral aspects of the development" (Vieira, 1993)

C. **"Sustainability integrates natural systems with human patterns and celebrates continuity, uniqueness and placemaking"** (Early, 1993)

The University of Rhode Island defines the kind of sustainable neighborhood that it is trying to develop as "one in which human and non-human communities function as a whole, minimizing environmental impacts, using resources efficiently, and enhancing quality of life, while seeking to maintain or restore the integrity of the underlying natural systems." Such a development would seek to implement, express, make visible and, thereby, educate about sustainable principles and concepts.

According to the seminal 1993 National Park Service publication, Guiding Principles of Sustainable Design, "As only one component of an interdependent natural system, the human species must develop a respect for the landscape and expend more effort understanding the interrelationships of soils, water, plant communities and associations, and habitats, as well as the impacts of human uses on them. Beyond a change in basic approach, sustainable site design requires holistic, ecologically based strate-

gies to create projects that do not alter or impair but instead **repair** and **restore** existing site systems."

This publication continues, "Useful in understanding ecologically based site design are the 'Valdez Principles for Site Design' developed by Andropogon Associates, Ltd. These strategies are precedent setting in their application and especially important to rightfully integrate the built environment into a setting or site" These principles are then summarized as: 1) **Recognition of Context**, 2) **Treatment of Landscapes as Interdependent and Interconnected**, 3) **Integration of the Native Landscape with Development**, 4) **Reuse of Already Disturbed Areas** and 5) **Making a Habit of Restoration**.

Because sustainable development derives from a strong concern for the future and its ability to exist and even flourish over time, it should not be thought of as a concern that is limited to ecology or "natural systems". It inherently includes a strong concern for such human based issues as the restoration and viability of local economies, cultures and cultural landscapes. Its concern for fostering the long-term viability of a world that is seen as interconnected includes increasing social diversity, affordability and equity.

Ultimately, there is no one exact definition

of sustainability since this concept depends on the value system and beliefs of each individual and of each interest group or culture. In this sense sustainability is inherently local in nature and is tightly bound to understanding each specific place and its context.

Sustainable Development at Atkins Corner:

There are many levels at which the principles of sustainability can be applied to the Atkins Corner Project in Amherst.

At the **town planning level** there is the definition of land uses, densities, the proper location for the project, and the integration of the project into the natural and cultural context of the region and the community. For a number of years, and preceded by several prior studies, the town has advanced the concept that Atkins Corners would be a future village center, at a more reduced scale than the Amherst downtown. The Town is committed to being proactive in developing a common vision for what the future development might be, to plan for long-term improvements, and to anticipate any impacts that development might cause. Also at the town planning level is the relationship of the project to regional and local transportation, which will have a dramatic effect on whether the project is a generator of non-sustainable transportation (i.e., automobile-oriented

development) or not.

At a **site planning level** there are many design-specific issues relative to sustainable development that can be integrated into the actual design of the project's layout such that development will not create unsustainable impacts upon natural resources - techniques such as innovative stormwater discharge, domestic water utilization and sewage disposal, site design to promote wildlife and human habitat restoration. Mixing land uses in a compact pattern such that complementary uses, such as residential-neighborhood services, and integrated housing types for variety in the type and cost of housing, can lead to a stable, sustainable neighborhood at Atkins Corner. Integrating such uses as elderly housing, co-housing and affordable apartments can also provide a desperately needed range of housing for Amherst.

On the **building specific levels** there are the integration of "green" technologies to promote efficient energy utilization, renewable materials, reduced energy and non-sustainable, material-intensive maintenance. Solar design, reduced stormwater run-off from roofs, reduced rooftop heat generation, and reduced water, electricity, and sewage generation with low flow fixtures, and proper use of energy efficient materials should all be used.

On the **landscaping level** is also the use of

low-impact development techniques designed to intercept and treat stormwater run-off as close as possible to its source and to maximize groundwater recharge. At this level there exists the use of indigenous plant materials that require minimal water use and maintenance-intensive procedures, recycling of stormwater for irrigation of new plantings and the use of landscape materials that are



edible by wildlife or by humans (most commonly expressed in the form of fruit and vegetable gardens, but also in buffer plantings, etc.).

All these factors can be incorporated into the new Atkins Corners planning process. The degree to which they are realized will depend upon the community's desire to define its expectations, the ability for those standards to be afforded by the development community, and the willingness of the

property owners to accommodate new and innovative approaches to economic development.

"A Plan, not The Plan"

It is important to emphasize continually that what is being considered here is a Plan. As such its purpose is to guide and inform any future development so that it is optimally sustainable and creates the most viable and enjoyable new center. It is not a plan that will be instituted in its present form today or even tomorrow. The developer's or owners will retain their own designers and consultants and will eventually bring their own plans to the Town to go through the standard review, commentary and approval or disapproval process. The intention of this Plan is that it should inform any future designs and provide a pro-active illustration of the kind and quality of development that the Community of Amherst desires for this prominent site.

It should also be noted that Hampshire College - which owns many of the parcels being actively considered for development in this study - is also in the midst of its own process to create a Sustainable Plan for its approximately 800 acres of land located north of West Bay Rd. and directly adjacent to the area and parcels which are the subject of this Plan. The Ives parcel which is included in this study directly abuts the Cultural Village zone identified by Hampshire College. Informal



Atkins Country Farm Market from the overflow parking lot to the east of Rt. 116 near the apple barn

footpaths cross this parcel and show a desire to link the core Hampshire College Campus to Atkins Country Farm Market .









Our Consultant Team firmly believes that the Atkins Corner Sustainable Plan and the Hampshire College Sustainable Plan should connect with each other through the Cultural Village area and be related in a complementary and synergistic way. Our charge from the Town and the Atkins Corner Working Group, however, has been to focus on the specific parcels (outlined in white on the grayscale site

analysis maps or yellow on full color maps) whose owners are actively evaluating them for development of some kind.

Atkins Corner Protected Open Space Context Map

Legend

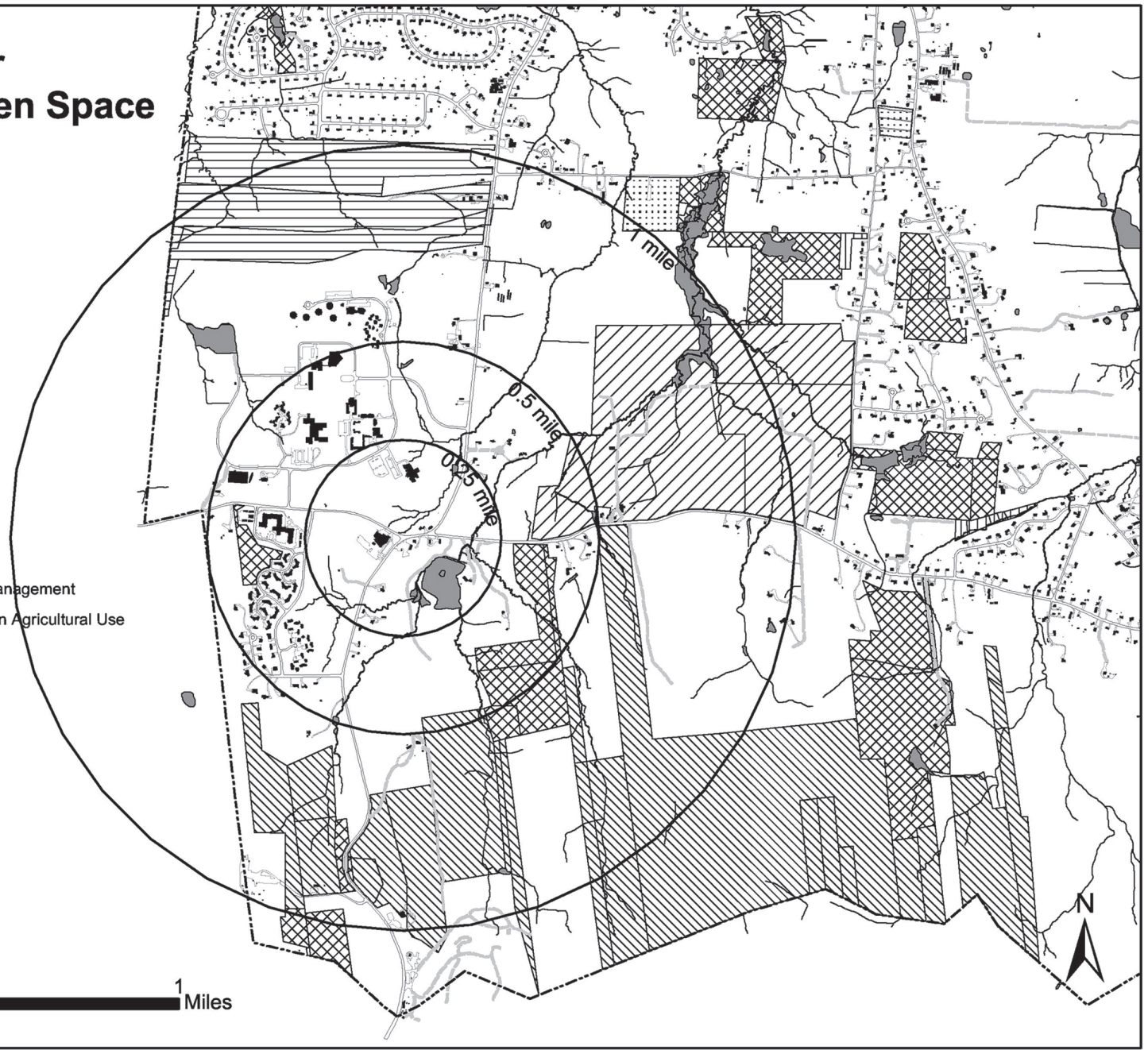
Protected Open Space

-  Agricultural Restrictions
-  Conservation Lands
-  Conservation Restrictions
-  Dept. of Environmental Management
-  Hampshire College Land in Agricultural Use
-  Recreation & Cemeteries
-  Town Boundary
-  Streams

Transportation

-  Paved Road
-  Dirt Road
-  Parking Lot
-  Driveway
-  Hydrology
-  Buildings

0 0.25 0.5 1 Miles





The Atkins Corner area from the air. The foothills of Holyoke Range are to the south at the bottom of the image.



Aerial view looking south over Hampshire College at the Notch and the Holyoke Range. Rt. 116 runs along the left of the view.



Looking ESE along West Bay Road and over the study area. Note the Eric Carle Museum of Illustrated Children's Art under construction to the middle left and Applewood directly to its right. Mt. Norwottock is the highest peak in the background.



Looking SSW over the parcels that are the immediate focus of this study and their immediate context. Note Epstein pond on the left of the image and the Upper Orchard, Hampshire Village, Applewood complex in the upper middle.



The Rt. 116 and West Bay Rd. intersection looking west over Atkins Farm Country Market to Applewood.



The intersection and Atkins Farm Market looking north. The tennis courts and pool to the lower left are part of Hampshire Village.



Looking north over Epstein's Pond and with Route 116 curving along the left side of the image and Bay Road to the right. Note the predominantly "green" character of the view as well as the important areas of open space. The field to the northeast of the intersection of the two roads is one of the study parcels.

Chapter Two - Introduction to the Site and Its Context

Location:

Study Area Parcels:

The parcels involved in this and previous studies (Conway School of Landscape Design Study, April, 1998) are outlined on the 11" by 17" base maps (pp. 14-16). These parcels are owned by either Hampshire College or by Atkins Farm Market. There is also a larger context area that falls within a one half-mile radius of the intersection of Rt. 116 and Bay Road. This larger context area already has many of the elements and much of the population necessary for a vital, new center.

Starting in the northwest quadrant of the intersection, the former Ives parcel includes the Ives residence at the intersection and measures approximately 16.3 acres in area. Much of this parcel is wetlands or is subject to pre-existing visual easements granted to the National Yiddish Book Center. The northeast quadrant of the Rt. 116 and Bay Roads intersection contains a 23.3 acre parcel belonging to Hampshire College which includes a narrow but visually prominent field in the northeast corner of the intersection. Sweet Alice Brook and associated wetlands divide this parcel.



Aerial photo detail of the Atkins Corner intersection

The southeast quadrant includes parcels totalling approx. 6.8 acres belonging to Atkins Farm Market. These parcels about the Epstein pond drainage and include the Atkins Market's apple barn as well as several residential scale buildings. Five single-family residences are located along Rt. 116 to the south.

Finally, the southwest quadrant of the intersection contains the current Atkins Farm Market and parking areas as well as two parcels belonging to Hampshire College. Parcels under active study in this quadrant total approx. 12.9 acres.

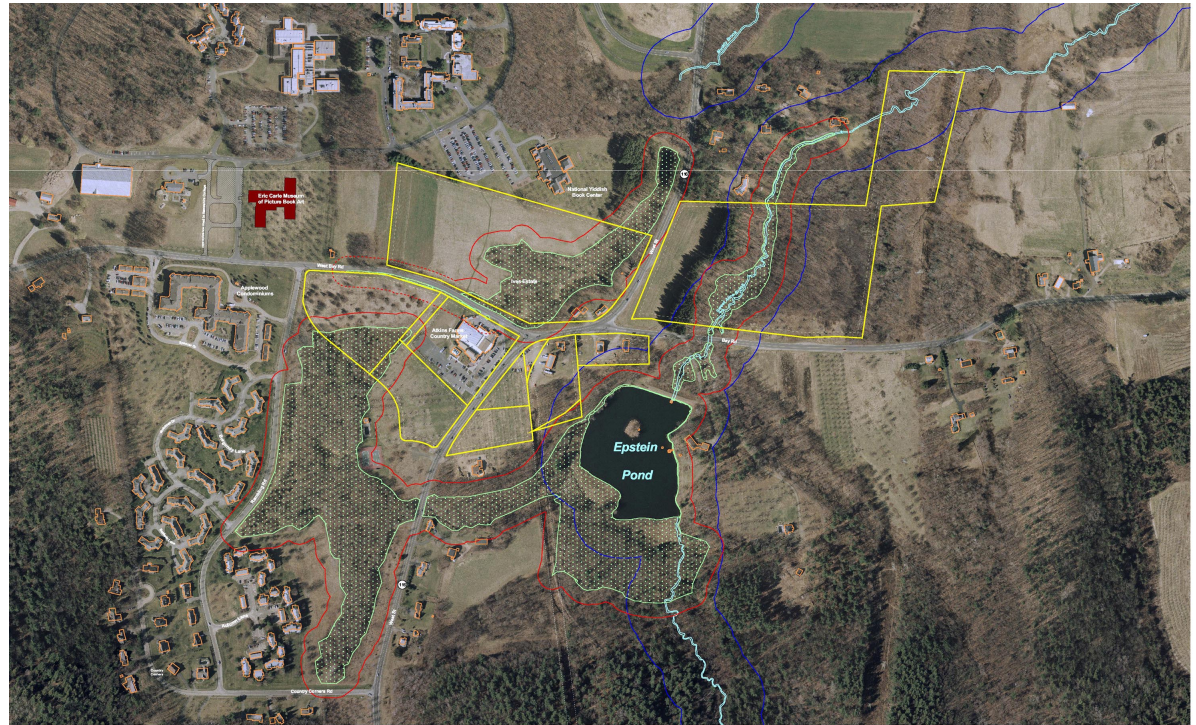
Site Analysis:

Drainage Basins:

The four quadrants of the Rt. 116 and Bay Road intersection drain to the Northeast and into the Sweet Alice Brook drainage. Storm drainage from most of the SW and NW quadrants of the intersection and West Bay Rd. (including Atkins Farm Market roofs and parking) is currently funneled through culverts and swales into the former Ives property wetland. This run-off receives no on-site treatment and is currently causing erosion and pollution impacts to the Ives wetland. Most of the SE quadrant from the centerline of Rt. 116 east and including the area of the Atkins Apple Barn drains overland into Epstein Pond and the Sweet Alice Brook watershed.

Wetlands Resource Areas:

Existing wetlands systems dissect the site and will be a major constraint on the size, extent and type of any new village center development. It will be critical to minimize the creation of new impervious surface. It will also be imperative to integrate on-site stormwater treatment and infiltration to the fullest degree. This should be an integral foundation of the design not an afterthought or add-on.



Aerial view of the study area with the parcels outlined surrounding the Rt. 116 and Bay Rd. intersection.

On-site wetlands delineation by a wetlands professional has not been done for the study parcels. All wetlands areas shown on the maps and drawings are best estimates by the consultant team and are based on color orthophotos from the Town of Amherst GIS database. These areas and their 75' “no-build” wetlands set-back (for any commercial or retail-use buildings) are shown on two of the three following 11” by 17” site analysis plans.

Vehicular Circulation and Traffic

Impacts:

In 1997 the Pioneer Valley Planning Commission (PVPC) completed a traffic signal warrant analysis for the Rt. 116 and Bay Road/West Bay Road intersection. The PVPC concluded that the intersection meets Mass Highway Department criteria for the installation of a traffic signal under warrant #6 – Accident Experience. As part of this study PVPC did traffic counts at the intersection which confirmed that at that time (1997) Rt. 116 was the more heavily

Hold for 11 X 17 Fold-up Map: Parcels and Estimated Wetlands

Hold for 11 X 17 Fold-up Map:
Parcels and Soils, 200' Rivers Act
Buffer

Hold for 11 X 17 Fold-up Map:
Parcels, Estimated Wetlands &
2 Foot Interval Contours

traveled of the two routes . It is the current Consultant's understanding that the Town of Amherst wishes to maintain priority for through traffic along Rt. 116 at this intersection.

Re-alignment of Rt. 116 further to the East so as to create a single, more standard four-way intersection may require a signalized intersection in the near future. This is due to increasing traffic volumes along both the Rt. 116 corridor and along the east-west Bay Road corridor.

The project's location has considerable promise to be well integrated into the local and regional transportation system given it's proximity to PVT bus systems and the five colleges. Because of the optimal project location, direct tie - ins with public transit can offer reduced automobile use from the site to centers of employment and the colleges. The reduced need for residents of the new village to own one or more automobiles reduces requirements for parking for residents, and consequently all the resulting impacts that extensive parking areas, roads, and expanses on impervious surfaces can create.

It is not assumed that all residents of the new village will be self supporting in terms of transportation. Many residents will want or need to own cars. But, if the new village can promote alternative transportation



Atkins Country Farm Market's apple storage barn east of Rt. 116

particularly during the peak hours of commuting travel then the increases of traffic on both Bay road and Rt. 116 can be minimized.

Existing Easements:

National Yiddish Book Center visual easements prevent development of the field to the south of this building and its parking lot. A 16.5 foot wide A,T & T underground cable easement parallels Rambling Road through the western edge of the Hampshire College owned parcel immediately to the east of Applewood. A 50 foot wide Mass.

Electric Company easement crosses through the southeast quadrant parcels belonging to Atkins Country Farm Market.

Chapter 3 - The Public Participation Process

The Three Workshop Sequence

Three public meeting/workshops were held over the course of the approximately five months of public input and discussion relating to plan options. Two public meetings and interactive design workshops were held on September 13th, 2001 and October 13, 2001.

The September 13th public meeting included presentations by members of the project team on site analysis, constraints, potentials and an overview of possible approaches to sustainable development of the study parcels. Approaches to site design and stormwater management, traffic-calming and building types were illustrated by photos and drawings of other projects. Over one third of the four hour long meeting provided an opportunity for questions, observations and discussion from members of the local community and stakeholders.

The October 13th public meeting presented a wide range of different design alternatives for the study parcels and for improvement of the Rt. 116 and Bay Rd. intersection. Each option was accompanied by land-use diagrams, build-out figures with square footage and parking spaces and an illustrative plan inserted into the GIS photo base of the surrounding context area. The final half of the workshop consisted of break-out

sessions in small groups focused on discussion and redesign/refinement of the various alternatives.

On December 12, 2001 the whole consultant team presented final design and circulation options for the Atkins Corner area leading to a single recommended plan. There was much discussion and a large majority of meeting participants approved the plan as shown in this workbook with a show of hands.

As part of their contribution to this project Hampshire College provided buildings on their campus for all of these public meetings. In addition, Hampshire provided buffet dinners and lunches at every workshop.

Comments from first Public Workshop:

What are your favorite places?

In Amherst:

- Town Common-symbol of New England
- Mt. Pollux
- Rail Trail
- Puffer's pond
- Grace Church Common
- Cushman general store and park
- South Amherst Common(s)

Elsewhere:

- Hardwick Center
- Old Deerfield
- Wayside Inn, Sudbury

What sort of buildings 'fit' in Atkins Corner?

Size and Shape? Architectural Style? Examples?

- Mix of modern and colonial
- Evocative of old architecture- not a replication
- New England style
- Vernacular architecture-but not fake colonial
- Yiddish Book Center
- Sophisticated
- Discrete
- Hidden parking
- Visual surprise
- Benches
- Small signs
- Like South Hadley Village Commons- on a smaller scale
- Green and park-like, not paved
- Pedestrian friendly
- Bicycle networked

What uses are desirable, or not?

Desired uses:

- Leave it alone!
- Artist Studios
- Conveniences
- Learning Center (Hampshire College Annex)
- Bike shop (rental/repair)
- Café
- Small movie theatre
- Ice cream shop
- Book Store
- Mail Box
- Craft/Gift Store
- Video Store
- Hardware Store
- Little Theater
- Environmentally-Focused Businesses



Cherry Hill Co-housing development in Amherst. This compact development received very high positive preference ratings at the second workshop. Contributing factors may have been its traditional and articulated look combined with a scale that looks intimate and residential. A strong plus was probably the large amount of surrounding open space and woodland that is both saved by the compact building layout and also clearly delineates it. This "greenbelt" helps make Cherry Hill a discrete and distinctive place.

- Offices
- Apartments/Condominiums
- Affordable/Accessible Housing
- Public Park/ Village Green
- Bike Path
- Bridge over Road
- Students suggest:
Restaurants
Entertainment
Bookstore
Bank
Bar/ nightclub in walking distance

Undesirable Uses:

- Pomeroy Lane- ugly, garish, shabby

- Bar
- Liquor Store
- Pizza
- Gas station- glare
- Boutiques
- Hadley Village Barn Shops- fake vernacular
- Three-story buildings
- Nightclubs
- McDonald's

Issues

- Traffic-fix existing problems
- Natural buffers
- Don't make shortcuts
- Safe pedestrian/bike connections

Visual Preference Survey Results from Second Public Meeting:

Liked:

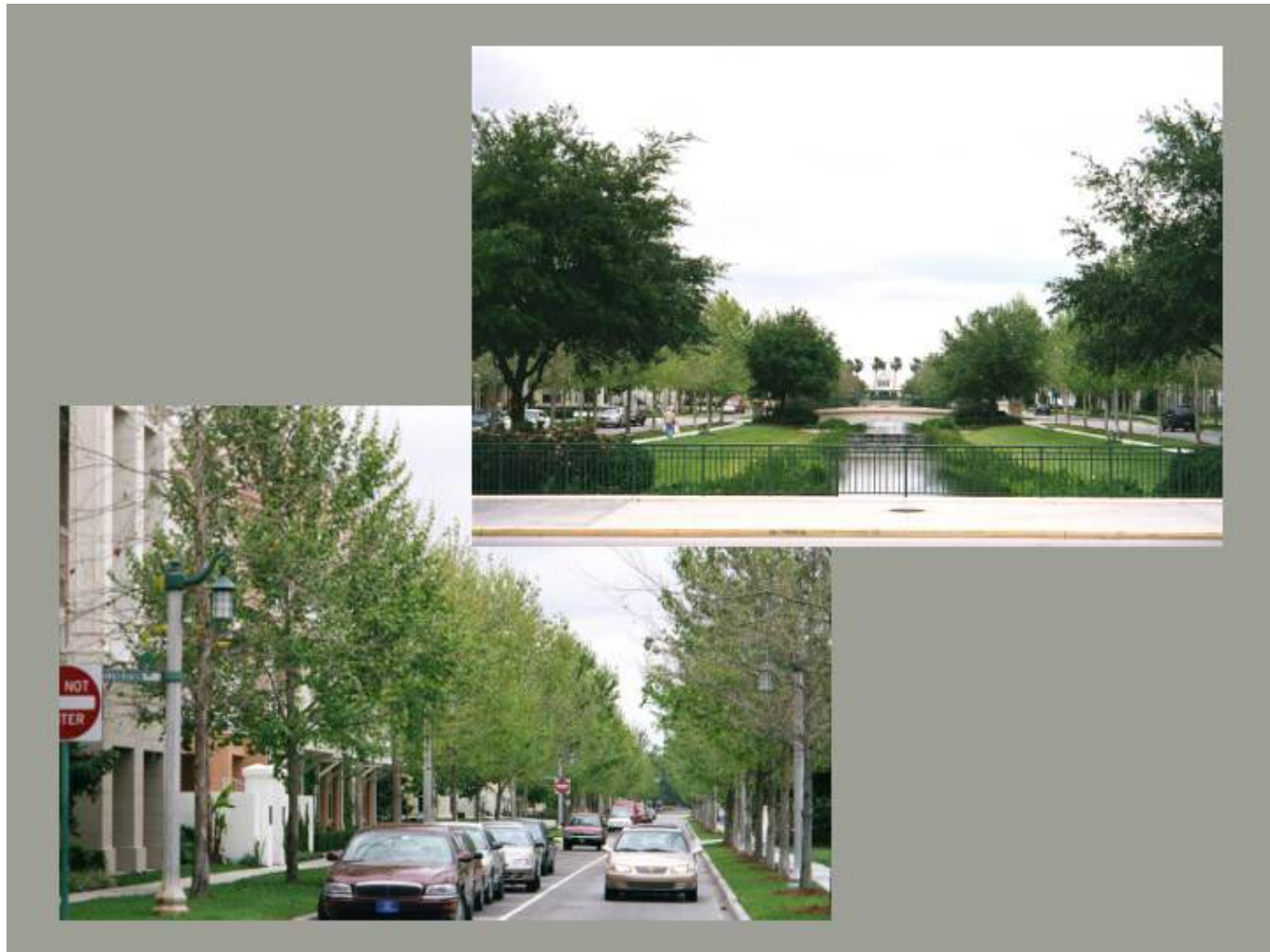
1. Emphasis on pedestrian amenities
 - Sidewalks
 - Courts (non-automobile spaces)
2. Green Spaces and grass, greenbelt or open space surrounding building clusters
3. Smaller scale structures
4. Authentic vernacular architecture (not kitsch).
5. Visible Sustainable Elements (green roofs = an example).
6. Village-like appearance

Disliked:

1. Large mass, monolithic, three story structures
2. "Theme park" qualities (synthetic vernacular villages)
3. Overt commercialism
4. Presence of cars and standard asphalt paving
5. "Town-like" densities or appearance.

Sample Images from Workshop Two
Visual Preference Survey

The view below received a highly favorable rating in the visual preference survey done as part of the Second Workshop. This is ironic given it is located immediately to the right of the field of view of the unfavorably rated view to the lower left



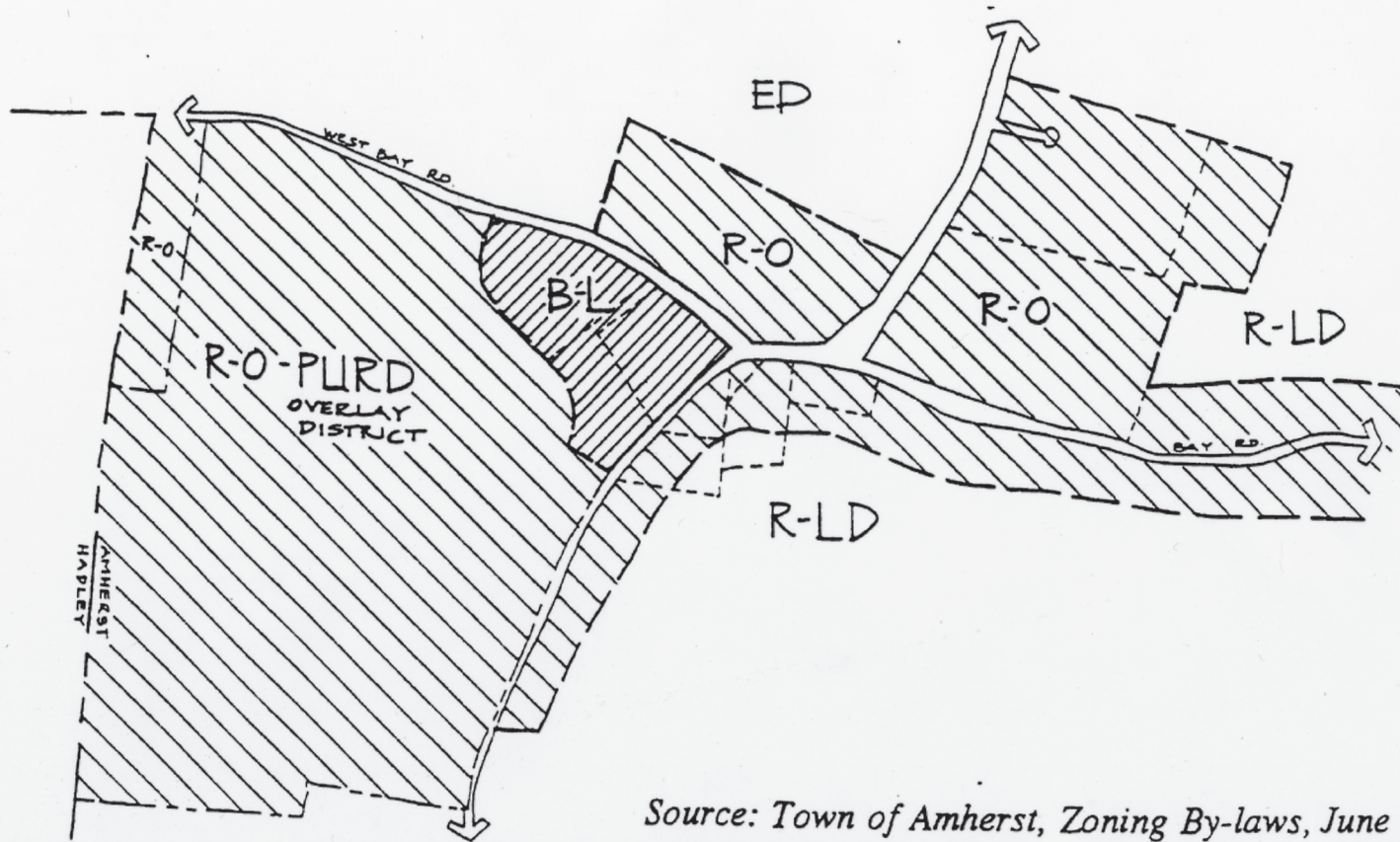
The view above received an unfavorable rating in the visual preference survey done as part of the Second Workshop. This seemed to be because of the prevalence of cars in the image.



This photograph was one of the few with three story buildings in it that received a favorable rating. This may be due to the fact that the third story is up under the roof and that there is a strong screen of street trees at a scale that can reduce the perceived scale of the buildings and that the building mass is broken up and articulated into in size and shape.



This view received a strongly negative rating. It has street trees but they are newly planted and insignificant in scale compared to the block of buildings behind. Workshop participants commented that they didn't like the monolithic nature of the building and the fact that it did not appear to vary in height. It was perceived as too "urban" to be appropriate at Atkins Corner.



Source: Town of Amherst, Zoning By-laws, June 1997.

Atkins Corner Village Center Study
Conway School of Landscape Design, April 1998

Current Zoning

Under the current Amherst Zoning Bylaw only the southwest quadrant of the Rt. 116 and Bay Rd. intersection (12.9 ac.) is zoned for Limited Business or commercial (B-L). This zoning district allows hotels or motels as well as filling stations and auto repair

shops under a Special Permit process. The remainder of the study parcels are residentially zoned with the vast majority being R-O (Outlying Residential) and requiring 30,000 s.f. lots for single-family residences or two-families by special permit.



Build - Out Plan under current B-L and R-O Zoning.

Build - out potential according to current zoning is approximately 250,000 s.f total of commercial or retail uses and 665 parking spaces. For comparison, the existing uses in the SW quadrant of the intersection are approx. 28,000 s.f. (Atkin's Farm Market) with 115 asphalt or gravel parking spaces. In the R-O zoned areas there would be the potential for 17 new single (or two-family by special permit), detached residences on 30,000 s.f. minimum lots. In the R-LD zoned areas new single (or two-family by special permit), detached residences on 0,000 s.f. minimum lots could be added.

The Design Alternatives Investigated

Over ten different design alternatives were explored during and after the second public meeting and workshop. Each had a different circulation scheme or different approach to making this problematic intersection safer and less car-dominated. In all of the options explored it was assumed that the narrow meadow to the northeast of the existing intersection between Rt.116 and eastern Bay Rd was important Open Space and an important gateway to Amherst. Many workshop participants agreed that this meadow contributed to the existing character of the area as perceived by those living there and passing through it regularly. Due its narrow depth and the presence of significant wetlands in the Sweet Alice Brook system located directly behind it, this narrow field might be difficult to develop. For all these reasons, no development was shown on this parcel even though it is one of the study parcels.

In all circulation alternatives it was assumed that north/south traffic on Rt. 116 would have priority with the second priority going to east/west traffic on Bay Road.

Offset T Intersection Alternatives: Minimal Solution

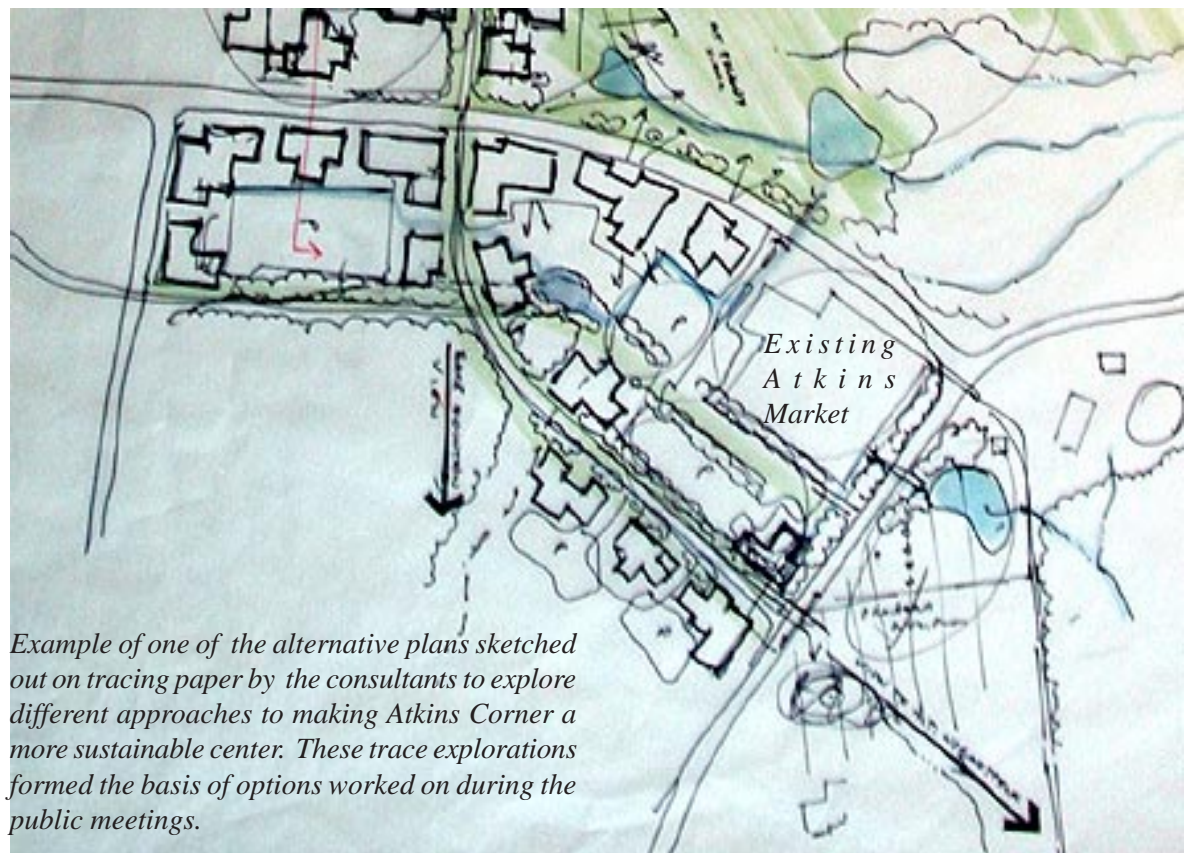
The least ambitious and fastest to implement option was to simply straighten up the two existing "Y" intersections so that they become

a pair of offset "T" intersections. This means they would meet at closer to a 90 degree angle and therefore require full stops and offer better sightlines. This option, however, does nothing to address the existing dangerous traffic turning off Rt. 116 and into the Atkins Country Farm Market parking lot. Nor does it deal with the problem of giving Atkins room for necessary expansion without increasing

pedestrian/car conflicts as shoppers move from one half of the market to the other across Rt. 116 .

217,50 s.f.f in 2 - 1/2 story buildings included:

- 87000 Sf ground floor commercial
 - 87000 sf second floor office/residential
 - 43500 sf third floor
- for a total of approx. 75 residential units.



Re-aligned West Bay Rd.

This was one of the most radical of the alternatives explored and involved re-routing West Bay Road from just to the east of the Rambling Road intersection to join Rt. 116 at a "T" intersection south of the existing Atkins Market parking lots. In this option the re-aligned portion of West Bay Rd. would become the "Main Street" of the new center. However, the problem of the "Y" intersection between Rt. 116 and eastern Bay Rd. would persist as would the problem of Rt. 116 splitting Atkins's parcels. For these reasons this option was thought by all participants to be one of the least preferable.

Design alternative incorporating an oval green to organize traffic as presented and discussed at the second public meeting/workshop.



Re-aligned Rt. 116 Alternatives: Oval Green at New Single Intersection

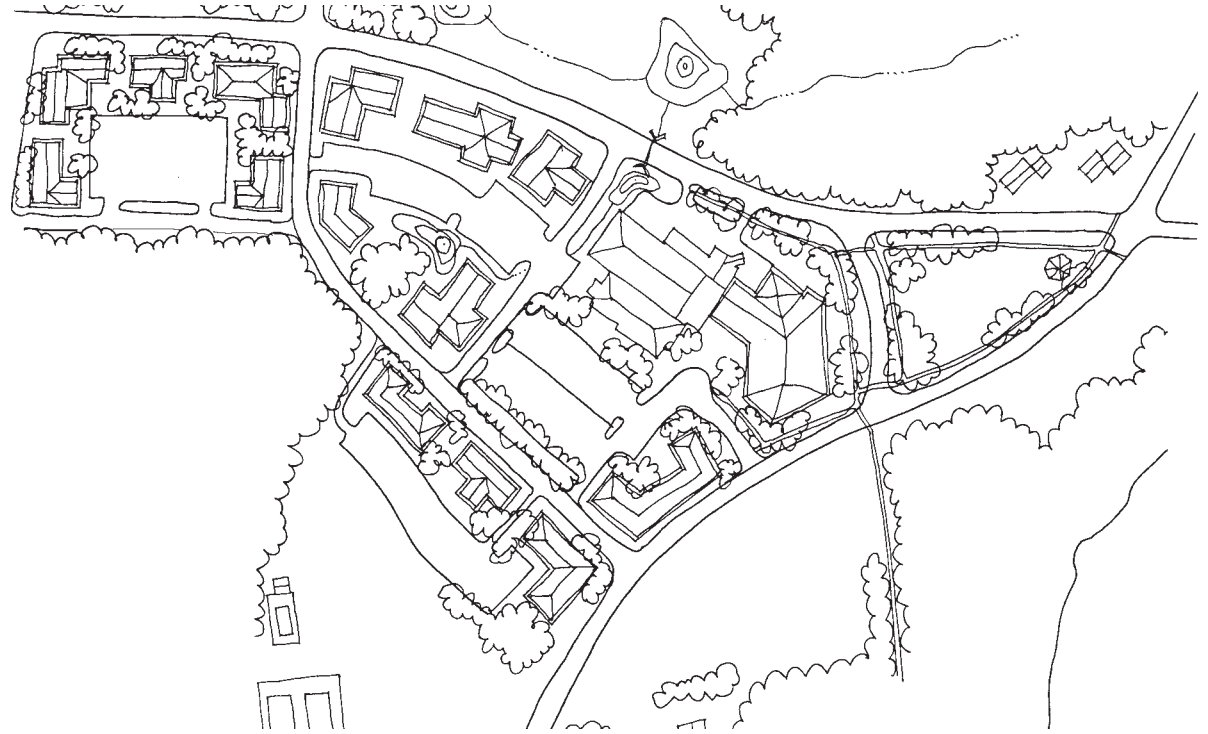
This alternative assumed Rt. 116 re-aligned to the east towards Epstein's Pond. A lozenge or oval shaped Green was then made in the intersection between Rt. 116 and Bay Road.

This kind of Green or small Common is found throughout New England and effectively functions as a roundabout. As in the typical version the design alternative presented at the second Public Meeting had residences lining its two long sides - some of which were the existing two historic houses on the Ives

property corner of the intersection. On the opposite side detached single or two-family residences were sited where the Atkins Market Apple Barns currently stand. This option interested many participants. However, it became clear that its environmental impacts on the Ives wetlands and on Epstein's Pond would be considerable and would probably make it unpermissible. In addition, it was felt that the kind of housing that was needed in the area was more affordable types than detached, single-family. For these reasons this alternative was largely discarded in favor of the following one.

Triangular Green

The final set of alternatives explored had Rt. 116 re-aligned to the east in order to make a larger unified area in the SW quadrant of the intersection and allow creation of a new growth center. The concept was that Rt. 116 would then form a "bright line" division between a protected open space and environmental corridor to its east and the new center to its west. A triangular Green was created to the northeast of the existing Atkins Farm Market and was conceived of as creating a memorable entrance or gateway to and from southern Amherst. In addition, this scheme had a new interior road from Rt. 116 south of the current Atkins parking lots up to West Bay Rd. about a block east of Rambling Road and directly opposite a possible future connection to Hampshire College's "cultural Village" and "Core Campus" areas.



Plan done to refine the triangular green option in preparation for presentation at the final workshop. A further development of this alternative became the plan recommended by the consultants and endorsed by a majority of the meeting participants on December 12, 2001.

The Final Program Selected

Based on the design explorations listed above a final program for the new center was developed with

1. Less than 200,000 s.f. of total development (build-out under current zoning equals 250,000 s.f.).
2. Buildings not to exceed 3 stories in height with the large majority 2.5 stories or less and in a mixture of heights and footprints.
3. Rt. 116 re-aligned to the east and with the

triangular Green circulation approach described above.

4. Creation of an interior "Main Street" that would organize the new center, take some pressure off the Rt.116/ Bay Rd. intersection and pull access to parking off of Rt. 116.
5. New development to be easily separated into possible phases so that the new center could be built over time as opportunities arose and as development partners and funding sources became available.



Chapter 4 - Design Concepts of the Recommended Sustainable Plan

The Design Context

An aerial view of the Atkins Corner Neighborhood reveals that, far from being a undeveloped rural area, the neighborhood is fast developing into a hodgepodge of suburban uses – each planned with little relationship to the other, separated by odd bits of open space, and connected by a confusing road system. As further development occurs, this typical suburban model of development will likely continue – made worse by the fact that each new building will have its own entrance and parking lot, and whatever approach to architecture and landscaping seems to best fit the proposed use. Yet there are some elements that already tie the neighborhood together, which could potentially serve to unify this diverse area: Bay Road and Rt. 116, despite a confusing intersection, create a clear structure that connects Atkins Corner to the rest of the world; likewise, the open meadows, woodlands, and orchards along these roadsides retain a largely rural feel as you approach the area from any direction; finally, the streams and grass channels that drain the site connect to the larger Sweet Alice Brook system. If properly integrated into the proposed development, these elements can tie the site into the larger scenic, cultural, transportation, or ecological systems that surround it.

Plan Overview

The proposed plan will create a compact, pedestrian-friendly development core constructed on traditional village planning principles. Route 116 will be realigned further to the East, allowing room for Atkins Farm to expand without crossing the highway with new buildings and uses. This will avoid adding new pedestrian crossing hazards and additional traffic congestion to an already dangerous spot. The existing offset intersection of Bay Road and Rt. 116 will be reconfigured as a safer and more efficient right-angle crossing. A narrow road will cross in front of Atkins Farm to relieve some of the traffic flow through the intersection – creating a small triangle park as a welcoming entrance to the village. Meanwhile, the orchard and woodland to the East of 116 will be preserved as an open space buffer to Epstein Pond.

A new street will connect 116 with Bay Road to serve as the spine of the new village center. 1 to 2 story structures will line this “Main Street” as well as the frontage along Bay Road and Rt. 116, while parking lots will be hidden behind the buildings at the center of the blocks. The continued success of an expanded Atkins Farms will serve as the anchor for the neighborhood, which will provide opportunities for a wide range of commercial,

residential and office uses. Buildings will be designed with flexible floor plans to accommodate uses that can change over time to fit the needs of the market place. Streets and parking areas will be lined with landscaped, tree-shaded sidewalks to encourage walking between buildings, and paths and sidewalks will extend to nearby residential areas, Hampshire College, and the Mt. Holyoke Range/ Joseph Allen Skinner State Park.

Main Street

While Atkins Farm will continue to be the focus of activity, the proposed street linking Bay Road and 116 will create a visual and functional spine for the surrounding neighborhood. This is modeled on a traditional village street with buildings lined up fairly close to the road, tree-lined sidewalks with benches and attractive light posts, and parallel on-street parking. The street could potentially be extended across Bay Road to connect to the core of Hampshire College, a concept that is being explored as part of an ongoing Campus Plan. The Main Street idea is more than a cute historical reference: what this concept does is to create a continuous public space through the neighborhood, with a consistent treatment of pavement, plantings and other elements. As long as

they create a more-or-less unbroken wall enclosing the street, the buildings that enclose it can be large or small, and varied in design and use, without destroying the pleasing unity of the overall composition. This allows for great flexibility in uses, as well as an interesting variety in architecture, while preventing the kind of visual and functional confusion found along the typical suburban commercial strip.

Building Size, Placement and Alignment

While it need not be overly rigid, the placement and alignment of buildings is very important to the success of the overall plan, and cooperation between landowners, whether voluntary or mandated, is a precursor to achieving the desired results. While certain structures, such as Atkins Farm Market, can and should serve as visual landmarks within the village, most of the buildings will act more as a backdrop to the activities occurring in the streets, squares and parking courts that they enclose. By lining buildings up close to busy pedestrian areas, ground floor shops can take advantage of concentrated foot traffic. Many structures have the opportunity for two entrances, one facing the street and one facing the interior parking lots, which will provide good visibility for both cars and pedestrians, and yield many choices for convenient parking. While firm limits on size and height of structures will need further discussion and

review, based on the public input and our own analysis, structures should be limited in overall size and proportions to a more residential scale appropriate to the area. This means heights of 1 to 3 stories, with building masses broken down into blocks probably no more than 50-60 feet in any one dimension.

Climate-friendly Design

Along with the aesthetic benefits of enclosing public spaces with buildings comes the physical benefit of creating sheltered pedestrian zones where cold winds are blocked and building walls stretch out to soak up the sun. With this in mind the long axis of most of the structures runs east-west, exposing the long building walls and window areas to the sun. Trees help to slow the wind and in addition to providing shade to parked cars and people, shade building facades in summer to lower cooling costs. Traditional building elements like porches and awnings provide shelter from the sun and wind. All these elements are common in traditional buildings and village centers in the area, constructed in a time before central heat and air conditioning. The plan approach allows



us to extend these ideas along entire streets, which will greatly enhance the appeal of the development for residents, workers, and visitors.

Views and Visual Experience.

The importance of views of the meadows, woods and orchards surrounding Atkins Corner, as well as the beauty of the nearby Holyoke Range, were mentioned many times by local residents during the public meetings. While it is impossible to both develop the site and preserve every view, roads and buildings have been laid out to frame vistas of the surrounding landscape as you walk or drive through the area. On the larger scale, by keeping the development south of Bay Road and west of 116, the plan retains views across the meadows fronting the Yiddish Book Center, as well as the series of rural

The Atkins Corner Plan



Proposed buildings fronting on Bay Road screen parking areas from view and provide a sense of arrival to the village.

Bay Road is rebuilt with traffic calming elements to smooth the flow and prevent accidents at new road crossings.

Stormwater is slowed and treated on site with a series of naturalized ponds and vegetated swales.

Existing woods, wetlands and meadows north of the site in the former Ives property are permanently protected.

An existing stretch of open space/meadow is part of the southern gateway to Amherst

Reconfigured Bay Road/116 Intersection provides for safer and more efficient crossing and turning.

A new "Town Green" creates a welcoming park at the gateway to the village.

Realignment of Route 116 to the East allows for expansion of Atkins Farm Market. Woods and slopes adjacent to Epstein Pond are permanently protected.

Old orchards can be used for overflow parking on busy weekends.



New Main Street connects Bay Road to 116 to form a spine for the village. Possible future extension into Hampshire College Campus is accommodated.

Mixed-Use Building Types offer possibility for expansion of affordable housing in the area.

Residentially-Scaled Buildings line the street frontage. Parking lots are kept to the rear, with connections across lot lines for ease of access.

vistas from Rt. 116 East toward Epstein Pond. Within the development, there are many opportunities for framed views of the surrounding woods and mountains between buildings, which can actually be made more dramatic and interesting by the fact that you only discover them as you move through the village. The main street itself has been aligned partly with an eye to framing a view of Bare Mountain as you turn South into the village from Bay Road, and capturing a vista of Mt. Norwottuck as you come around to the East and head down to Rt. 116.

Organizing Principles

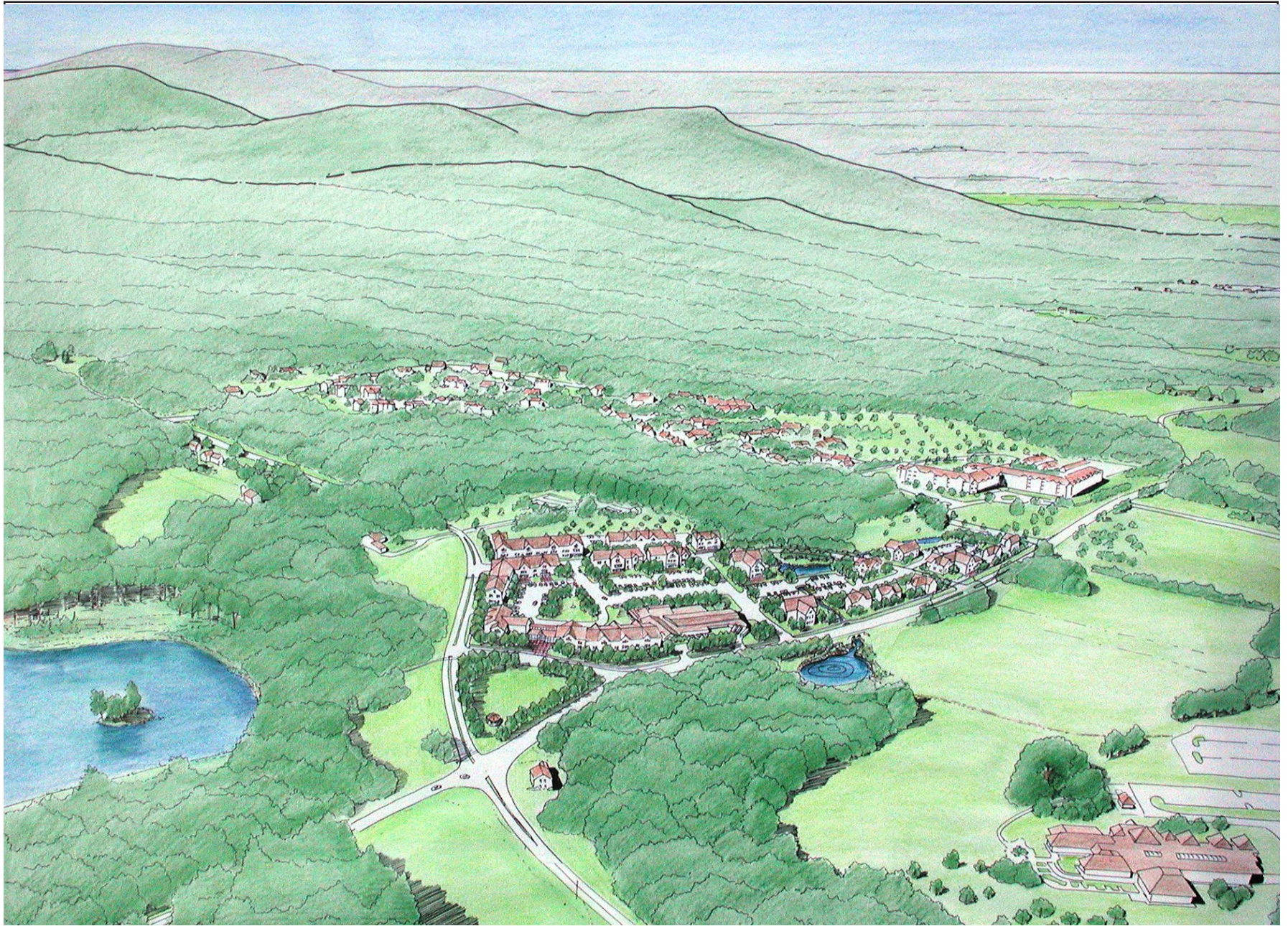
This plan was selected, in part, because it serves to bring the scattered pieces of the neighborhood together into a well-organized whole. The plan will link Applewood, Hampshire College's Cultural Village, and the current Atkins Farm into a single center of activity. By making a clear distinction between development center and surrounding countryside, the proposal will take the first step to establishing a physical framework that will unify many different uses, buildings and activities into a single community.

Within this larger concept for tying the Atkins Corner Village Center into the surrounding landscape, the most important organizing principle for the project is the



Main Street spine. While the detailed design of this street is important, the critical element is the idea of building the community around the shared public space along the street and the parks, squares and parking courts that it connects – all woven together with a network of pleasant pedestrian ways.

What this creates is a community that is attractive without being either boring or chaotic, as well as an efficient and highly functional environment for living, working and shopping.



Atkins Corner: Elements of Sustainable Development

Site Planning Concept

The development follows the model of a traditional village center surrounded by protected open space, organized on the interior by a new Main Street lined with buildings. This is more than a mere style of development, for it incorporates all the functional and environmental efficiencies that have been built into the village form over centuries of trial and error.

Circulation

Realignment of 116 and reconfiguration of the Bay Road intersection smooths travel for visitors and through traffic, reducing gas consumption and pollution. A network of bicycle and walking paths encourages residents, workers and shoppers to leave their cars parked and move under their own power. A simple grid of streets links parking lots and existing roads. With few dead ends, streets can be narrow, reducing pavement.

Access and Parking

Shared parking lots allow efficient use of paved areas, with shoppers and office workers parking during the day and residents returning at night. Connections between lots allow access points on surrounding streets to be minimized, reducing pavement and potential for accidents.

Uses and Programming

The plan layout is designed to allow a wide range of residential, commercial, and office uses, even within the same buildings. Flexible floorplans, shared parking, and good pedestrian and vehicular access allow a single, well-built structure to accommodate different uses over time, responding to the whims of the marketplace as necessary. This is more sustainable economically as well as avoiding the cheaply built “disposable buildings” so common along the corporate chain dominated commercial strip

Climate-Friendly Design

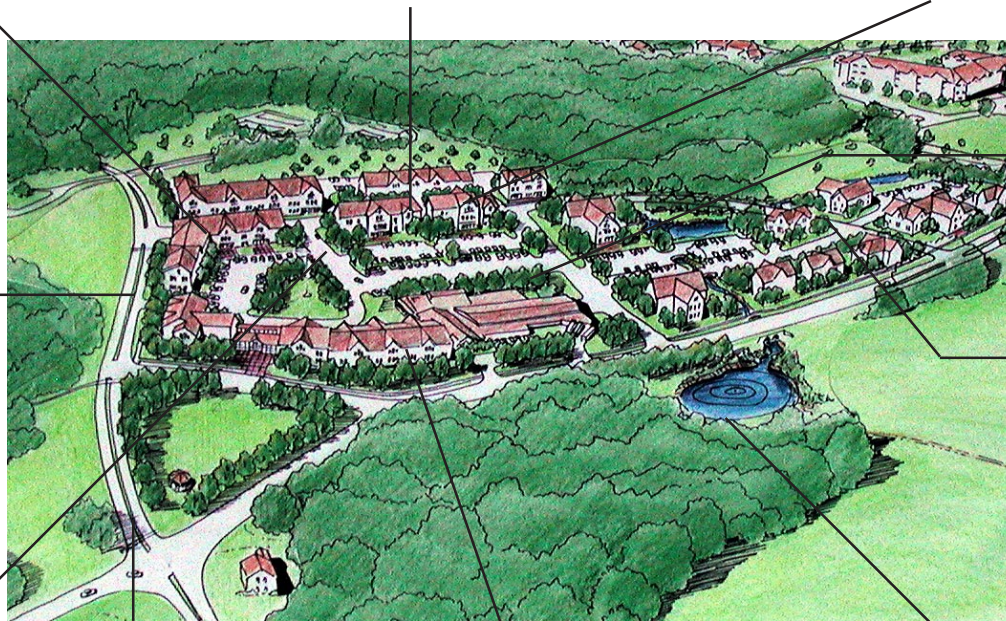
Buildings are laid out to block cold winter winds and absorb sunlight, while heavy plantings of trees clean the air, shade pavement and building facades. Architecture reflects traditional energy-efficient elements: peaked roofs, porches, shared building walls, etc., combined with modern materials, super insulation, and passive and active solar.

Plantings and Landscape Treatment

Native species and traditional non-invasive trees, shrubs and vines form the backbone of planting meant to last for many decades with the vigor to withstand hot summers, cold winters, and active human use.

Streetscapes

Streets are designed as a complete unit of space between the building walls on either sides: continuous sidewalks, tree plantings, awnings, benches and other site furnishings provide for human comfort while reducing the need for car use.



Traffic Calming and Pedestrian Safety

Rather than simply widening roads and intersections to accommodate more cars, the sustainable approach rationalizes the plan and reduces impediments to smooth traffic flow. Islands and narrowing of pavement at key points slows traffic and allows safer pedestrian and bicycle crossings. These "refuges" also ensure safer access to bus shelters.

Architecture

Sturdy structures, built for centuries rather than decades, are designed to fit many different uses over time within a building that is much more efficient to heat, cool and maintain over its lifetime. This long view allows greater investment in energy efficiency and durability of construction, which is more sustainable over time.

Stormwater Management

Low-Impact Stormwater methods are used to limit runoff near its source at every downspout and parking lot. On site infiltration by parking lot “bioswales” puts water back into the ground on site. What runoff remains is channeled to a naturalized surface pond and wetland system that holds stormwater for gradual release into the surrounding landscape. Native plants and animals react to changes in water levels and nutrient loads, so the system can respond to some extent without human intervention to future events.

Chapter 5 - Architecture, Uses and Programming

Observations on Current Architectural Conditions and Context

1. The site has a natural pastoral beauty and great views to the hills to the south.
2. Hampshire College, Hampshire Village, and Applewood offer an existing diversified, population.
3. Atkins Farms Market, Hampshire College, and the adjacent residential areas offer an interesting mix of activities.
4. There is no architectural cohesion to the existing buildings either in style, scale, or proximity.
5. Most of the existing architecture is modern or contemporary.
6. None of the existing buildings seem to respond to the views or solar exposure available at the site.
7. None of the existing buildings fully creates and capitalizes on a strong or memorable connection to its site or surroundings.
8. The village center, once built, would

serve four populations: the people living there; Hampshire College faculty, staff, students and visitors; north-south and east-west commuters passing through twice daily during the week; and tourists coming to the village as a destination for Atkin's Country Farm Market, the Book Center, or the future Eric Carle Museum, largely on weekends and holidays.

General Goals for Sustainable Architecture

1. Determine the degree of sustainability desired.
2. Place the emphasis on reducing or eliminating environmental degradation and pollution. This will start the process of environmental healing. This means placing the sustainable focus first on the reduction/elimination of fossil fuels consumed by cars, the production of electricity, the heating of buildings, and the construction of buildings manufactured of "green" and sustainable building components.
3. An important issue is the conservation of water and water

resources.

4. First reduce the consumption of non-renewable fuels and the production of pollutants.
5. Eventually eliminate the consumption of non-renewable fuels and the production of pollutants.
6. Promote strategies that heal or add nutrients to the environment.
7. Maintain a continuity of effort from global issues such as the reduction of global warming, through local efforts such as preserving the ecological functions of the land, to building issues such as indoor air quality.
8. Design from the start to accommodate passive solar, photovoltaics and, eventually, fuel cells. There is a general perception among experts on sustainability that, given the incredible amount of energy that bathes the earth daily, the "solar dividend" will eventually pay off. Photovoltaic cells have been slow to become cost effective, but that seems to be changing quickly. Hydrogen fuel cells show great promise as clean fuel sources.

Sustainable Building Design Principles:

Solar Exposure: Orient long facades, roofs, and balconies to South for passive and active solar exposure.

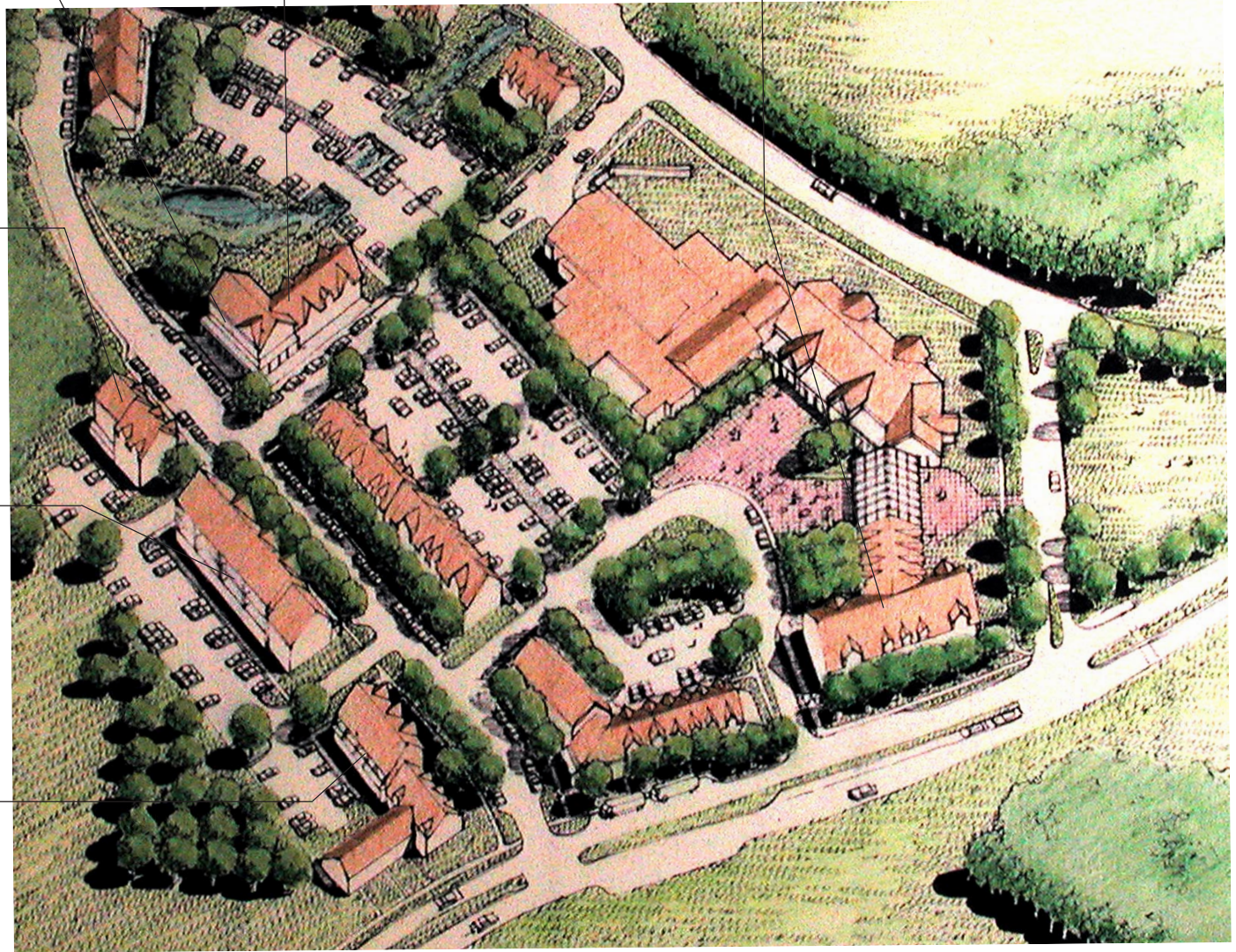
Vernacular Forms: Use traditional New England forms as the basis for all structures.

Residential Scale: Use the scale of traditional buildings, especially along the edge of the village.

Flexible Plan: Provide variable size retail on first level and flexible office/residential on second and third floors.

Outdoor Spaces: Provide balconies, porches, and decks to create a connection to views of the surrounding landscape and activity of the street.

Ventilation: Provide "through" residential units (with openable windows on both sides of the structure) to allow for passive ventilation.



Design Considerations

The new buildings should:

- Clearly express the sustainable strategies and materials used to build them in order to educate and raise awareness.
- Clearly express their relationship to their environment: orientation to the sun, views, prevailing winds, existing architecture, the pedestrian, vehicular, and natural patterns.
- Provide a strong connection to the site: arbors, porches, terraces, indoor/outdoor connection, solar shading, and wind protection.
- Mostly be "background" buildings, with only a few "specimen" buildings. Background buildings provide the glue for architectural cohesion, are less likely to look dated over time, promote awareness of other elements in the village environment, and adapt easily to a variety of uses. Specimen buildings provide focal points, vitality and a sense of place.
- Mix uses to provide a living, working, shopping, and entertainment environment to promote walking and reduce commuting.
- Reflect, in general, the regional building vernacular and the present, that is, the time in which they were built.
- Create as beautiful, bright, and supportive space as possible for inhabitants.
- Be oriented with long axis east to west to maximize solar exposure and views to south.
- Easily facilitate changes of use and renovation by being somewhat generic. A roughly 40 foot deep floor plate can be suitable for offices, retail, or residential uses. Apartments, townhouses, and commercial spaces can be "through" units with good cross ventilation and a balance of natural day-lighting. 24 foot wide structural bays would also support a variety of uses.
- Be up to 3 stories in height with the upper story(s) built into a sloped roof. This reduces land coverage, increases density, reduces building mass, provides a place for solar components, and creates interesting interior spaces.
- Use free-standing, ground floor column to support some buildings to allow continuity of the land or land functions to be maintained.
- Be built of the most durable materials possible to reduce the consumption of materials and energy for repairs over its life.
- Employ strategies that facilitate

deconstruction at the end of their usefulness.

Construction, Systems & Materials Considerations

1. In general:
 - Favor labor intensive building practices over material intensive practices. This puts the emphasis on craftsmanship, traditional local building practices and materials, supports higher salaries for workers, and keeps more money in the local economy.
 - Use materials that readily lend themselves to recycling.
 - Require that all construction waste be sent to a construction recycling center rather than a landfill.
2. Mechanical/electrical:
 - Extend the infrastructure to include a village wide heating system that burns a renewable fuel such as wood chips, pellets, or cordwood.
 - Separate grey water from black water and use for on-site purposes.
 - Employ passive solar heating strategies.
 - Employ solar heated domestic hot water strategies.

- Employ photovoltaic electric generation strategies.
- Employ natural daylighting strategies.
- Employ natural ventilation strategies.
- Require air-to-air heat exchangers or other methods of providing a steady supply of fresh air

3. Materials:

- Require that all wood products come from sustainably managed forests.
- Promote/require the use of a certain percentage of recycled materials:
 - Cellulose, cotton, or rockwool insulation (no fiberglass or petroleum products).
 - Recycled gypsum floor underlayment and wall board
 - Reclaimed lumber
 - structural steel or aluminum
 - glass
 - polyethylene decking and exterior finish materials
 - paint
- Promote/require the use of local indigenous materials, especially stone and wood products. This reduces the consumption of fuels in trucking and keeps dollars in the local economy.
- Promote the use of non-wood renewable building materials such as wheatstraw and hemp.
- Promote/require natural or non-outgassing interior finish materials, particularly carpet and other flooring.

Regulatory Considerations

1. Establish a system to rate the degree of sustainability of proposed development such as the LEED program promoted by the US Green Building Council or the Energy Star program.
2. Provide incentives to promote a pre-construction sustainable analysis that looks at the whole energy/environmental equation, not just thermal resistance as is currently required by the state building code:
 - Lifecycle fuel/energy consumption use
 - Capital cost vs. operational cost
 - Deconstruction/disposal costs
3. Expand current zoning to include specific minimum sustainable performance standards and practices wherever legal.
 - Embodied energy use:
 - procure raw materials
 - process raw materials
 - manufacture components
 - materials transportation costs
 - building assembly
 - waste transportation/disposal
 - maintenance
 - available consultants, contractors and suppliers.



A recent mixed-use commercial/residential building in Falmouth demonstrates how variations in massing, rooflines, and detailing can help a fairly large building fit into a village setting. Traditional materials and architectural treatments can also be "greener" -- especially if care is taken in siting of buildings for solar aspect, provision of porches and awnings, and use of local stone and wood products applied in innovative ways.

FLEXIBLE PLAN -

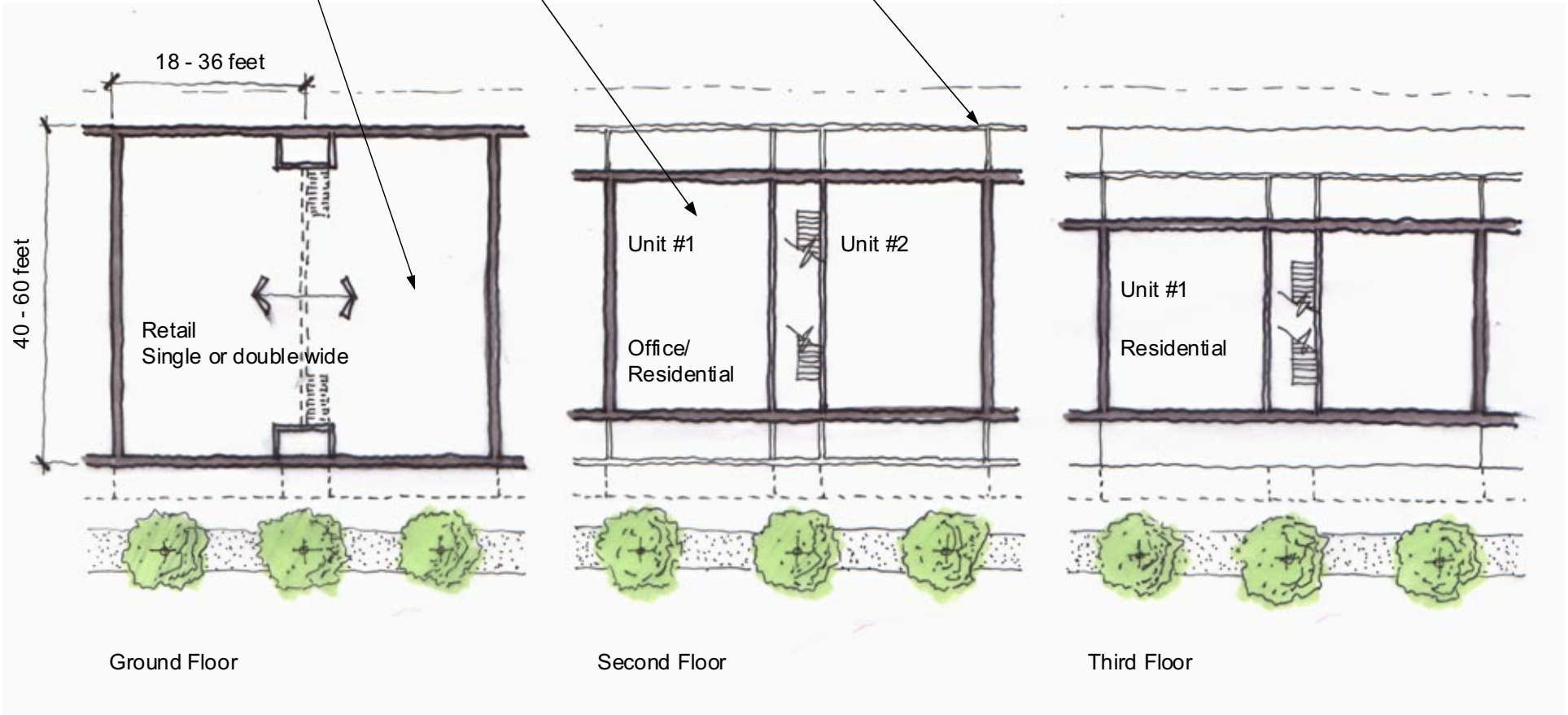
- Flexible office/residential on 2nd and 3rd floors
- Provide variable size retail on 1st floor

OUTDOOR SPACES -

- Provide balconies, porches and decks to connect to the landscape and streetscape

VENTILATION -

- Provide units that go from one end of the building right through to the other to increase passive ventilation



TYPICAL FLOOR PLANS

SOLAR EXPOSURE -

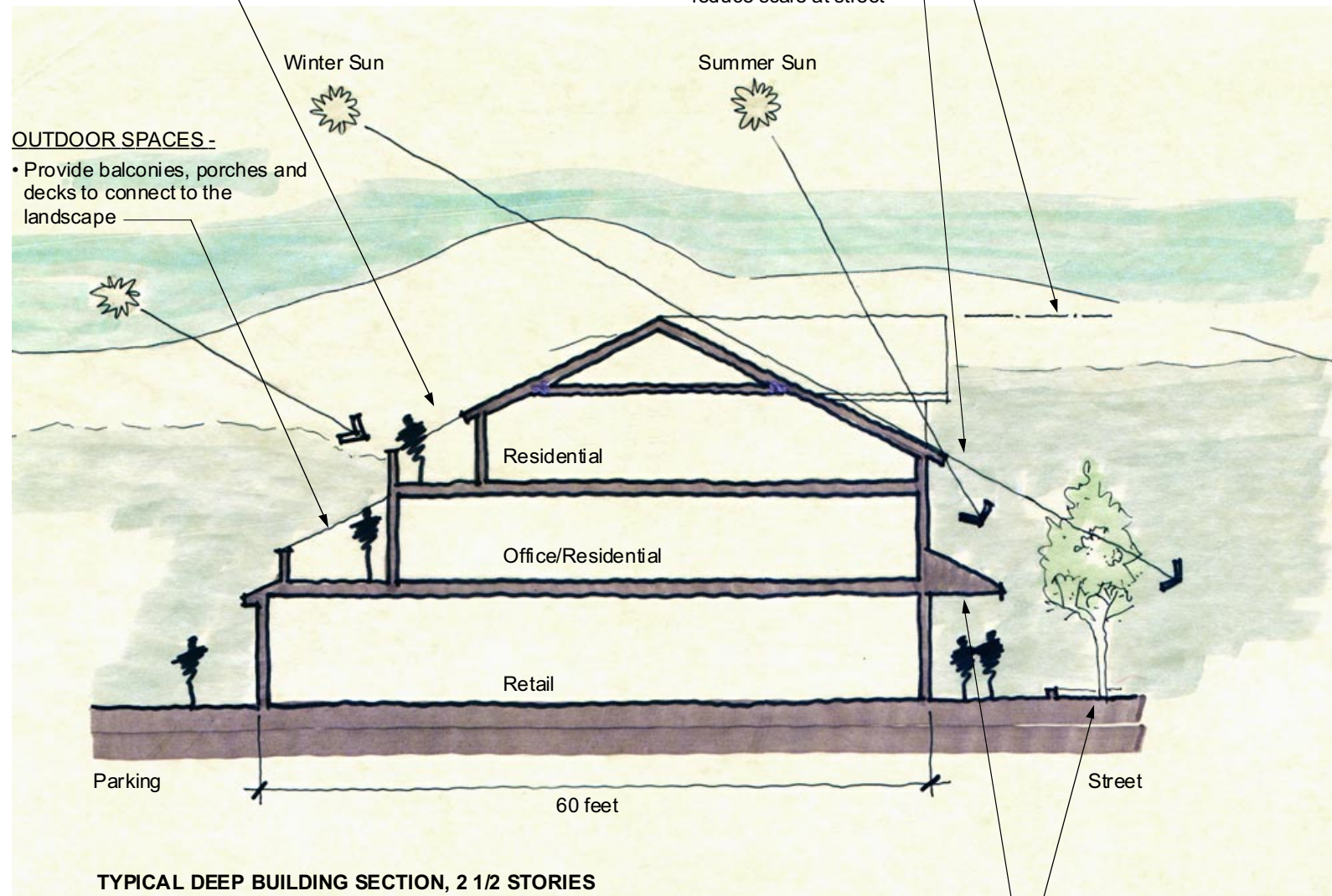
- Orient roofs and balconies to south for active and passive solar exposure

RESIDENTIAL SCALE -

- Maximum 3 stories high and 35 foot roof peak height
- Step facade down to reduce scale at street

OUTDOOR SPACES -

- Provide balconies, porches and decks to connect to the landscape



TYPICAL DEEP BUILDING SECTION, 2 1/2 STORIES

PEDESTRIAN FRIENDLY -

- Provide covered walking area and planting buffer from street

SOLAR EXPOSURE -

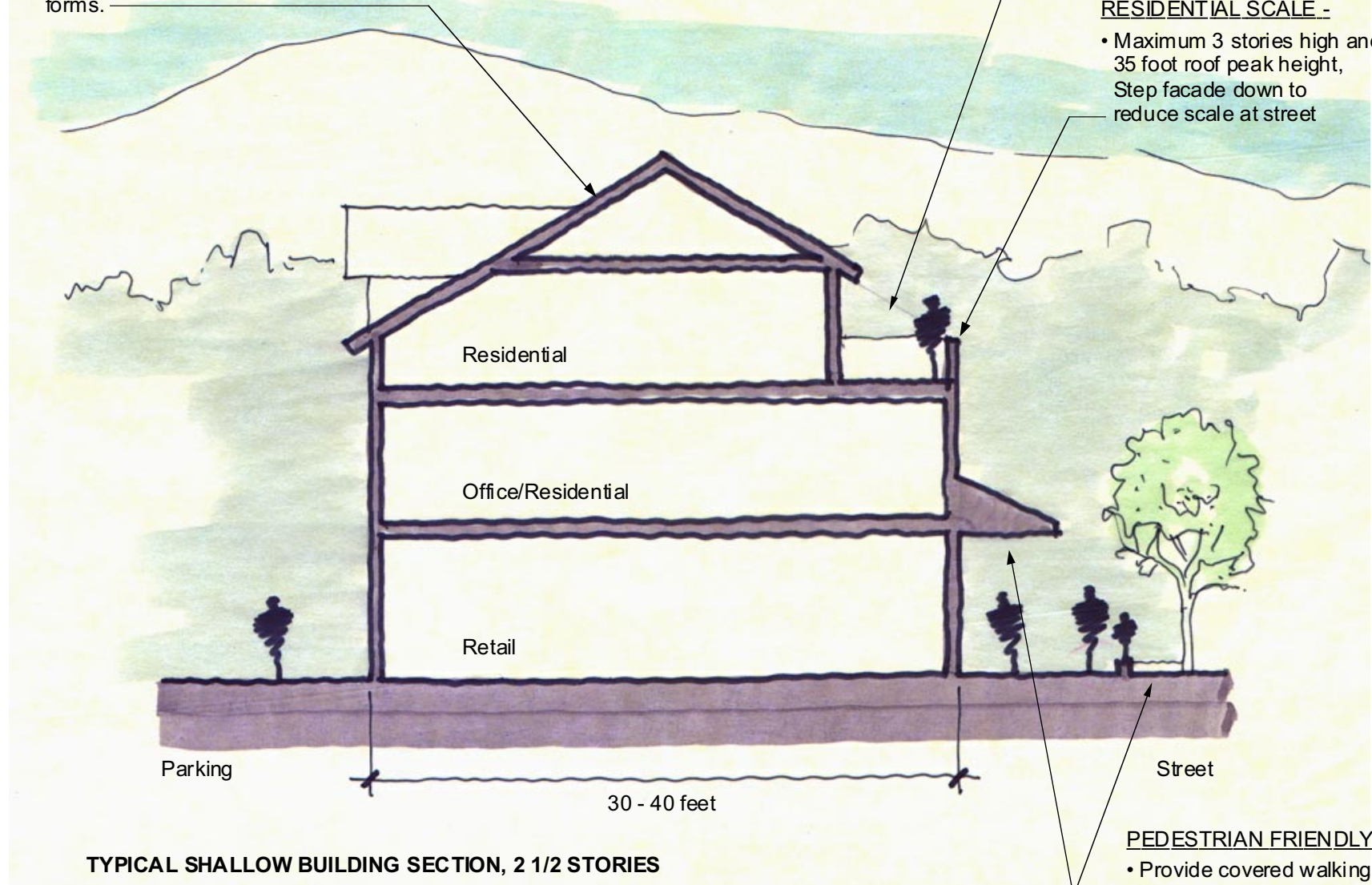
- Orient roofs to south for possible active solar exposure. Pitch roofs from 8/12 to 12/12 for optimum solar angle and to maintain vernacular roof forms.

OUTDOOR SPACES -

- Provide balconies, porches and decks to connect to the streetscape

RESIDENTIAL SCALE -

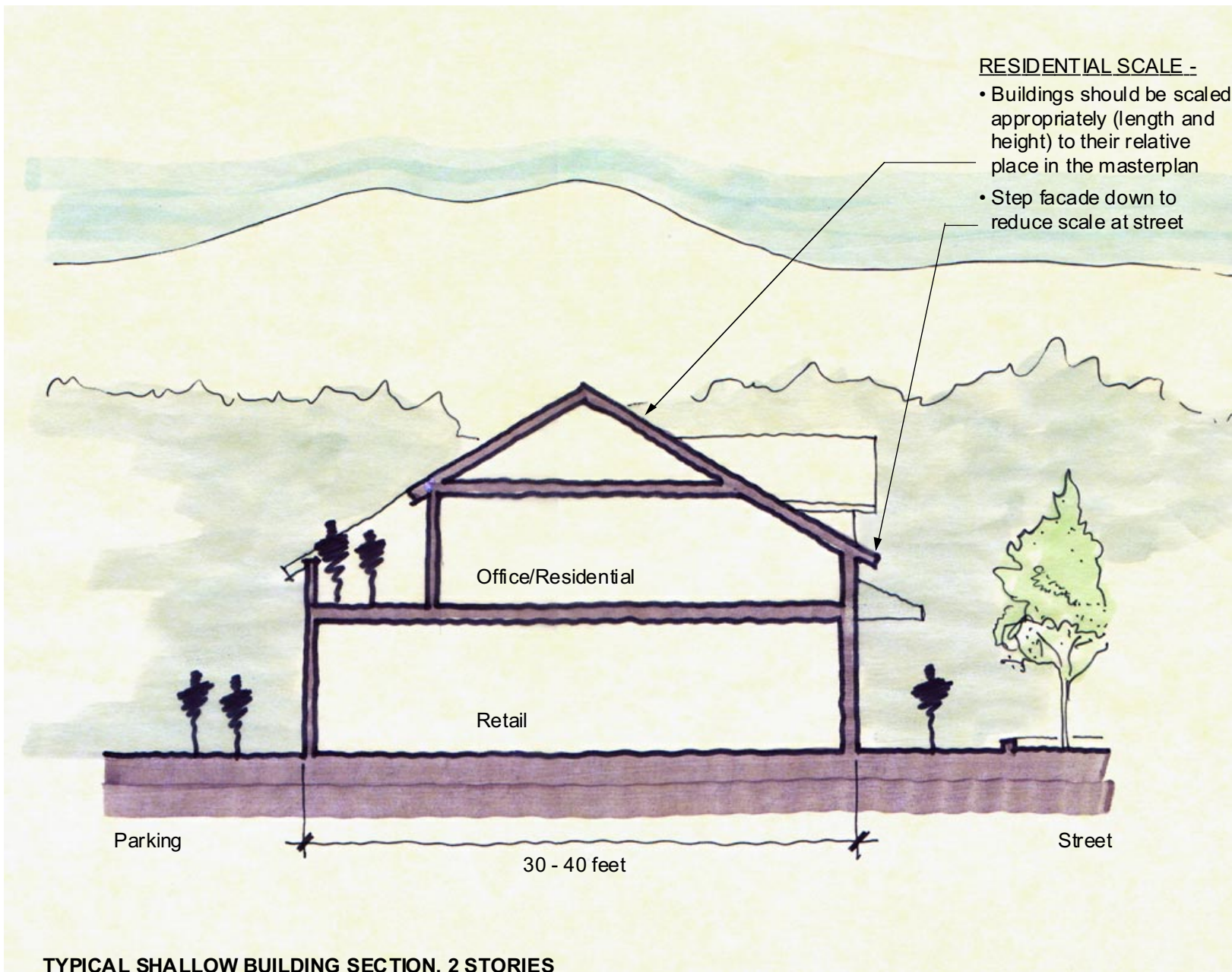
- Maximum 3 stories high and 35 foot roof peak height, Step facade down to reduce scale at street



TYPICAL SHALLOW BUILDING SECTION, 2 1/2 STORIES

PEDESTRIAN FRIENDLY -

- Provide covered walking area and planting buffer from street



VERNACULAR FORMS -

- Use traditional New England forms (gables, dormers, eaves fenestration) as the basis for all structures

RESIDENTIAL SCALE -

- Maximum 2 1/2 stories high and 35 foot roof peak height, Step facade down to reduce scale at street

OUTDOOR SPACES -

- Provide balconies, porches and decks to connect to the landscape and streetscape

BUILDING MATERIALS -

- Use renewable, regional and sustainable materials



1 1/2 STORIES/2 STORIES - 2 STORES WITH 2 APTS/OFFICES ABOVE

SIGNAGE -

- Provide sign area/band integrated into facade

VERNACULAR FORMS -

- Use traditional New England forms (gables, dormers, eaves windows) as the basis for all structures

RESIDENTIAL SCALE -

- Maximum 2 1/2 stories high and 35 foot roof peak height, Step facade down to reduce scale at street

OUTDOOR SPACES -

- Provide balconies, porches and decks to connect to the landscape and streetscape

BUILDING MATERIALS -

- Use renewable, regional and sustainable materials



1 1/2 STORIES/2 STORIES - 3 STORES WITH 3-4 APTS/OFFICES ABOVE

SIGNAGE -

- Provide sign area/band integrated into facade

VERNACULAR FORMS -

- Use traditional New England forms (gables, dormers, eaves windows) as the basis for all structures

RESIDENTIAL SCALE -

- Maximum 2 1/2 stories high and 35 foot roof peak height, Step facade down to reduce scale at street

OUTDOOR SPACES -

- Provide balconies, porches and decks to connect to the landscape and streetscape



2 STORIES/2 1/2 STORIES - 4 STORES WITH 6-10 APTS/OFFICES ABOVE

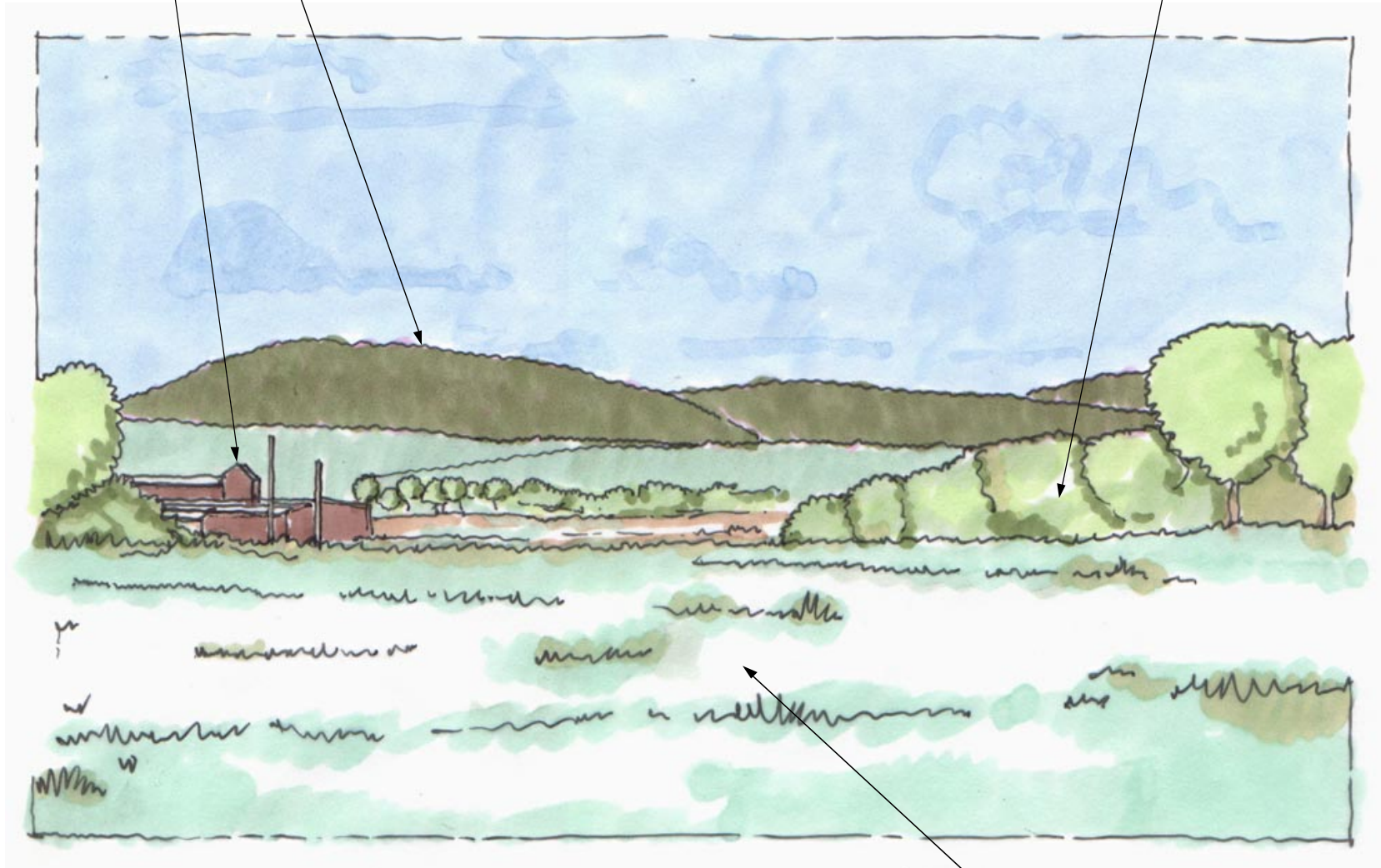
SIGNAGE -

- Provide sign area/band integrated into facade

- Views of near and far hills
Mt. Norwottuck and the
Holyoke Range

- Atkins Farm

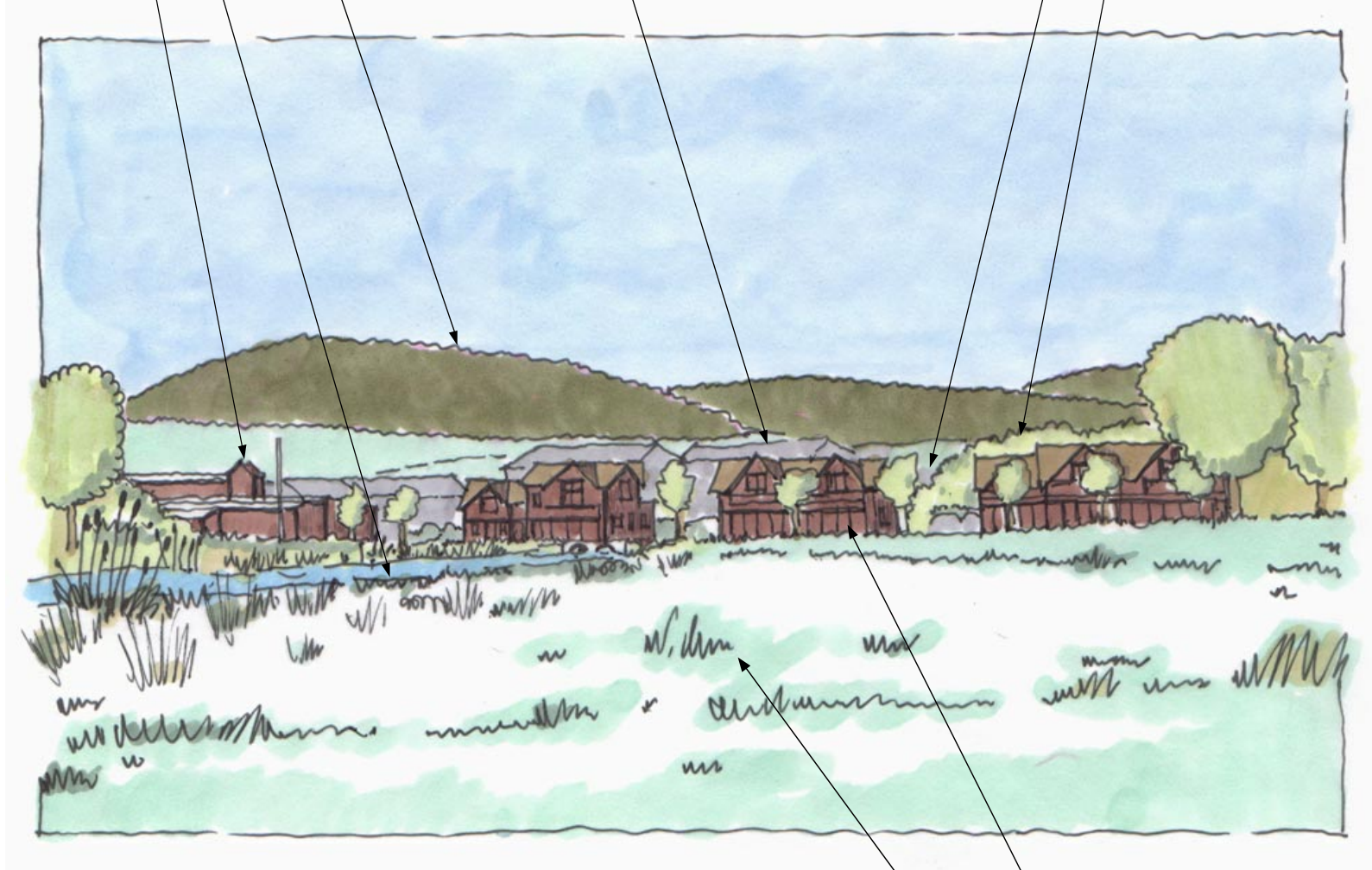
- Wetlands



BEFORE - Looking south to Bay Road and the site beyond

- Open space

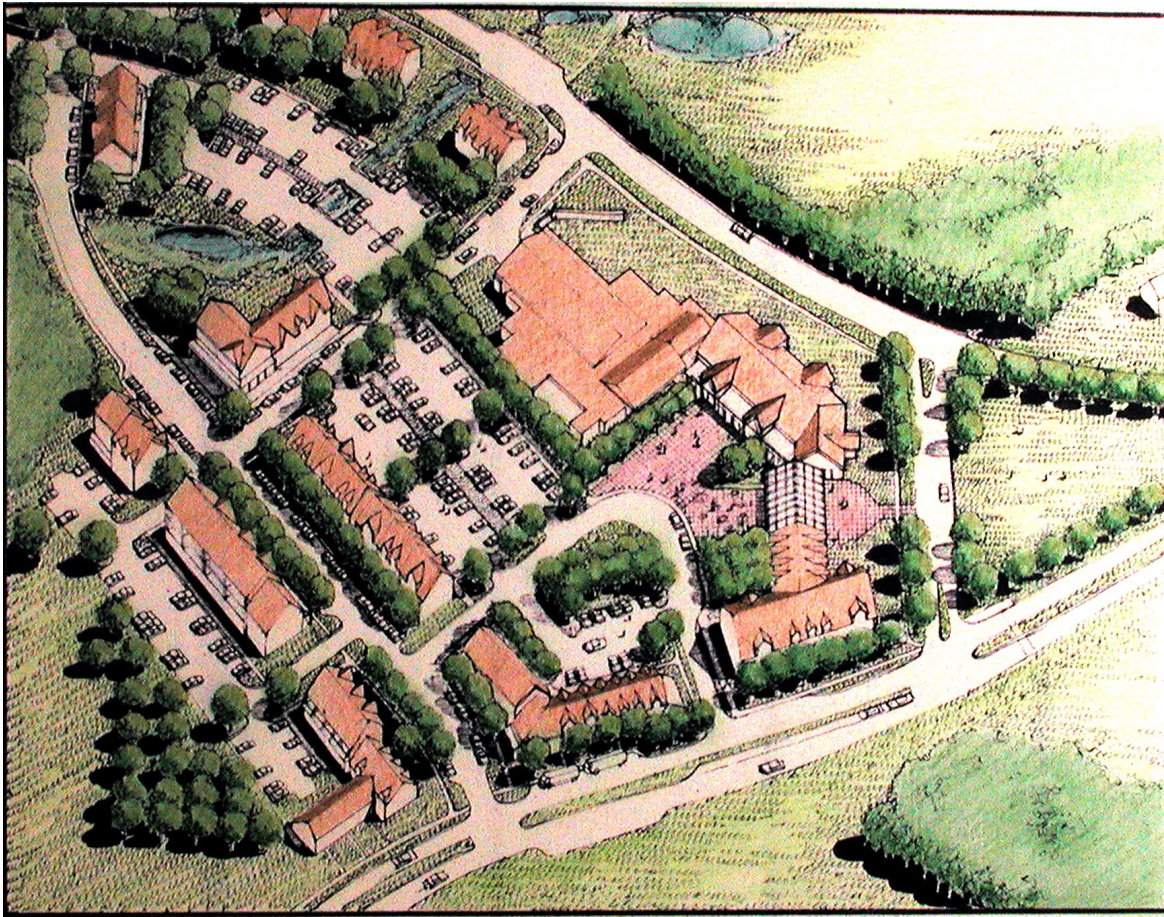
- Views hills maintained
- Wetlands created
- Atkins Farm
- Larger buildings beyond to create denser village center
- Views through buildings maintain connection with landscape and views beyond
- Wetlands maintained



AFTER - Looking south to Bay Road and the site beyond

- Smaller buildings along Bay Road to maximize views and rural scale
- Open space maintained

Chapter 6 - Climate-Friendly Design



built upon in the proposed plan. Buildings in the new center are designed and grouped to perform the same function of defining a sheltered “dooryard” to allow extended seasons of outdoor use. This will maximize use of outdoor, public spaces as well as encourage people to walk or bike rather than take a car.

- Street Trees at a minimum on center spacing of every 35 feet along all main building facades will provide shade for pedestrians in the summer months and will also shade buildings to cut down on energy needs for summer air conditioning.

- New Main Street and adjacent building massing laid out to help preserve a summer “breeze corridor” through the new center
- Creation of protected south or southeast facing microclimate areas
- Main “Plaza” at expanded Atkins protected by buildings sheltering from NW winds and adjacent to Winter-Garden
- Winter-garden designed with roll-up or removable glass walls to allow summer breezes to penetrate, allow more year-round use of the focal “Wintergarden” area and avoid the need for air conditioning.
- The local, historic precedent of the connected New England farmstead (“big house, back house, little house, barn”) is

Chapter 7 - Plantings and Landscape Treatment



Colored recommended plan (at build-out) for Atkins Corner showing proposed tree plantings and landscape. North is at the top of the image.

Plantings and Landscape Treatment

1. Orchards and Agricultural Landscapes
2. Protective Buffer Strips and Areas
3. Parks
4. Tree Plantings

5. Climate Controls

- Provide shade from hot summer sun – for humans, for buildings
- Tree plantings in parking lot bioswales to reduce heat island effect/hydrocarbon emissions coming off parked cars
- Shade trees for any air conditioning equipment

- Use of appropriate, non-invasive native vegetation wherever possible – especially in filter strip/buffers around existing wetlands
- Bioswales, micro-Detention and Filter Strips wherever possible – e.g. bioretention swales with integrated native tree plantings in islands in parking lots and along their edges wherever possible for shade and avoidance of heat island effects and higher hydrocarbon emission pollution from parked cars
- New buildings along south side of Bay Road are set back enough to allow creation of a continuous bioswale with native water-loving herbaceous plants and low native shrubs to filter run-off from roofs and roadway edge and to allow for maximum recharge through infiltration.
- Use attractive and regularly maintained mulches of natural materials under trees to avoid competition from grass under canopy.
- Promote/require landscaping strategies that do not require mowing or at least minimize it.

Chapter 8 - Circulation, Access and Parking

Sustainable Transportation Planning for Atkins Corner:

It is very important to consider the whole growth center as having an impact on the local and regional transportation system. Transportation within a sustainable growth center fundamentally depends on three components: density, diversity and design. The following points are important considerations for the growth center transportation system.

1. Integration of moderate to high-density mixed use properties can have a profound influence on transportation demand. Mixed, closely spaced land uses promote pedestrian trips between properties and reduce internal vehicle trips. The concept for sustainable design at Atkins Corner has been designed to work within a pedestrian scale distance and with a rich mix of land uses that will promote people's homes, services and possibly even local jobs in close proximity. Whereas many residents of Amherst and surrounding towns must drive to these services, the project as proposed represents a new viable pattern of development that will reduce automobile trips and regional congestion.
2. Context sensitive roadway design provides opportunities for the overall roadway network to enhance the growth

center. Streets can be faced with building fronts and sidewalks to encourage active and varied uses where appropriate. Roadway design standards can allow for narrow roads, on-street parking and traffic calming methods can provide a mix of alternative transportation options.

Because Rt. 116 is a state highway, any designs will need to comply with state and federal design guidelines in accordance with the American Association of Highway and Transportation Officials (AASHTO) "Green Book". While this may have been a challenge in the past because the Green Book tended to promote higher

speed roads, fortunately, in recent years AASHTO has rethought many of those approaches. Refined guidelines for roadway designs have allowed a greater range of possibilities to emerge for how to integrate road improvements with town centers. The Federal Highway Administration refers to this practice now as "Context Sensitive Design", and a publication, "Flexibility in Highway Design" poses significant new approaches to roadway improvements that are sensitive to community issues. This approach has been widely applauded as an available tool for towns and highway agencies. Whereas 5 - 10 years ago the possibilities for Rt. 116



The incremental growth of Atkins Corner, together with the impact of regional growth on traffic on Bay road, have created a situation where small changes may not work: realignment of 116 and Bay Road intersection are fundamental to solving existing problems, as well as allowing expansion of commercial uses on the site.

included a straighter faster road, signalized intersection, more turning lanes, higher speeds, and generally minimal attention paid to non-vehicular users of the road, now the rules have changed, and roadway design can be inclusive of all users in a functional and attractive street design solution.

While improvements to Rt. 116 have been contemplated for some time and are a high priority for residents who live near Atkins Corners, plans that successfully integrate traffic and land use futures have been elusive. The plan as proposed maintains Rt. 116 as the through-road priority but does so in a manner that allows the road to be a defining part of the growth center as opposed to a divisive element where the road is a negative barrier.

- The road should be designed so that traffic moves steadily at a moderate rate of speed (30-35 mph).
 - Improvements to the road should address improving the Rt. 116-Bay Road intersection such that in the future, signals could be added should traffic warrants allow.
 - Road crossings for pedestrians and bicyclists should maximize safety with center refuges, and by promoting slower, safer traffic speeds.
3. The growth center requires a comprehensive roadway network with a well-



A view across the Ives parcel shows the rural vistas belied by the amount of traffic going through the area.

defined roadway hierarchy established on a network with multiple parallel routes. There can be a range of roadways from the “Main Street” to the “Back Alley”.

A clear hierarchy of streets are defined in the Atkins Corners plan. Each street is designed to maximize pedestrian safety and compatibility with the adjacent new mixed use center and village character. The hierarchy of streets is:

- Rt. 116: dominant through-road
 - Bay Road/West Bay Road: secondary town roads
 - Atkins Corner cross streets: local Atkins Corner development streets
 - Alleys
4. Alternative transportation facilities are an integral part of the overall growth center design. Easy and convenient

public transit is a central aspect of the Atkins Corners design. The street system accommodates both the bus loop as well as centrally located bus stops.

5. The growth center needs to be considered in the overall transportation plan for the region. The considerations can include capital improvements and transit provisions. Investigating how to incorporate the growth center into the regional transit strategy should be a top priority. The growth center can provide a model for potential next steps in progressive transportation design and management. In the past, local/regional development has driven transit service design. The Atkins Corners plan links a residential and economic center within the regional transportation framework.

Atkins Corner: Summary of Transportation issues:

| Problem | Objective / Strategy |
|---|--|
| Motorist safety | improve road -intersection interfaces, calm traffic speeds, improve intersection configuration. |
| Pedestrian safety | create safer crossing points; define pedestrian paths/sidewalks; calm traffic. |
| Maintain traffic flow on 116 | slower and steadier is more efficient for traffic. |
| Driver confusion | clear intersection paths and signage/wayfinding,define who has the ROW. |
| High speeds | calm traffic at intersection approaches and for through routes, lower design speeds, and refine geometrics to promote slower speeds. |
| Highway “look and feel” | treat as dignified village street or scenic rural road,with attractive streetscape / landscape features, reduce “engineering intensive” elements. Preserve historic features nearby. |
| Lack of pedestrian linkages | safer crossing points, define pedestrian paths/sidewalks, calm traffic. |
| Lack of roadway/intersection capacity | improve intersection turning movements and control. |
| Lack of bike facility | create bike options both on-street and off-street. |
| Too much traffic pressure on intersection | create a functional street network, and alternative routes. |
| Too many cars on the road | promote Public transit design/accessibility. |
| Lack of ADA compliance | promote safe design, and ADA features. |
| Potential land takings | define compact intersection/road improvements. |

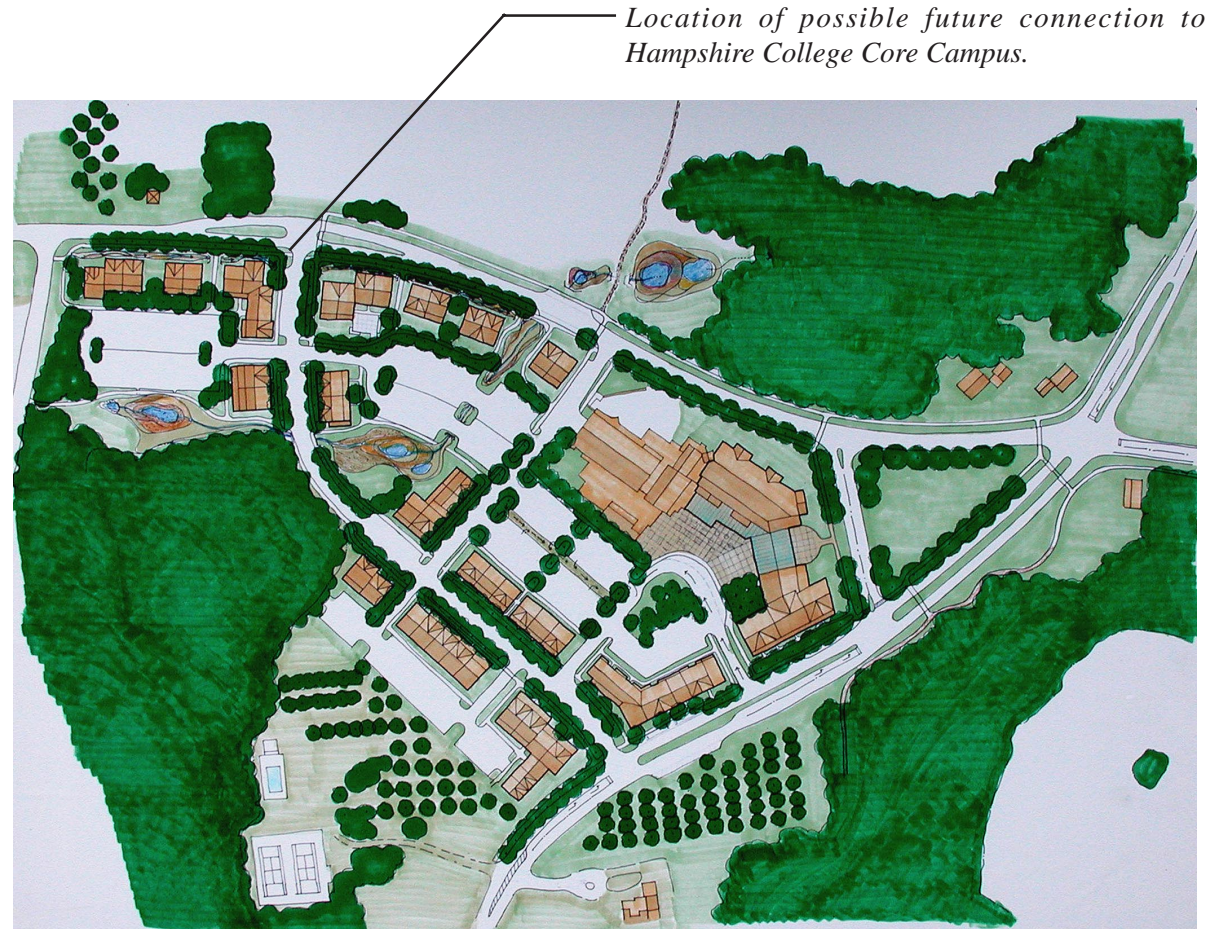
Circulation

The circulation plan emphasizes connectivity: a simple grid of streets and lanes knits the neighborhood together into a simple pattern that visitors and daily users will be able to comprehend easily. Multiple routes to any given point ease traffic congestion, while a clear hierarchy of streets helps people navigate.

Stress connectivity – especially for future connections to Hampshire College north of Bay Road, as it implements its own Sustainable Plan (in process).

Our design encourages a future solid connection, preferably by a strong streetscape supported by adjacent buildings through the "Cultural Village" and up to the "Core Campus" area. Note that North end of new interior "Main Street" is designed to accommodate this whenever it should happen.

Building envelopes at this new intersection of West Bay Road and the new interior road should be included that would "notch" buildings in from corners to create a gateway at this significant entry. Secondly this would serve to allow retrofitting of a roundabout at this location at any future point as an alternative to a signalized intersection.

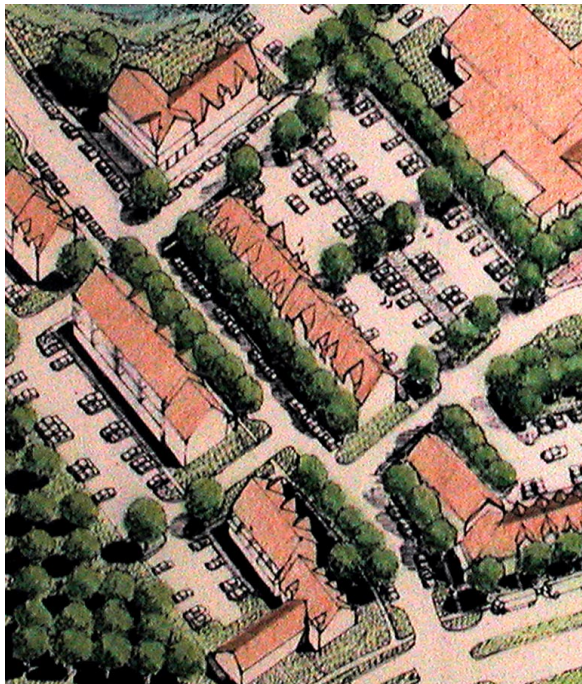


Recommended site plan(at full build-out) for Atkins Corner showing the proposed circulation system. North is at the top of the image.

Streetscapes

Strong streetscapes are created but intentionally not pushed through to Rambling Road in order not to create a short-cut that would add traffic to that road. A pleasant pedestrian connection past constructed wetland garden is provided, however.

Trees are provided for scale and shade but in unified planting strips wherever possible or with structural bridging slabs for sidewalks where the inner side abuts pervious areas and especially areas of mulch or non-competitive groundcover plantings.



Detail of recommended site plan showing the new streetscapes created.

Access and Parking

Parking for autos within the growth center should maintain a low profile with minimal visual and spatial impacts. If possible, incorporating parking with a building footprint (eg: below-grade parking) should be pursued. Surface parking lots should be placed adjacent to secondary streets and at the rear of buildings or behind visual buffers.

All parking should have very good connections to all adjacent properties with these connections incorporating and engaging the properties with the pedestrian walks as much as possible (e. g.: store-front promenades).

The emphasis on parking in Atkins Corners is to promote shared parking between complementary uses, to locate parking such that “park-and-walk” works in a way that enables people to park only once. Larger parking areas are enclosed within interior building blocks and parking for mixed uses along the street system emphasizes on-street parking to fit the village center context.

Access drives are consolidated and moved off of Rt. 116 – currently one of the most dangerous spots at the Atkins Corner intersection. Parking behind and screened by new buildings. Screening of the larger Atkins Farm Market lot is especially important for the view from Rt. 116 at this important gateway to southern Amherst.

Recommended site plan showing

1) new internal lots located at the interior of blocks and shielded by buildings, and
2) new parallel parking provided as a critical part of interior streetscapes.



More sustainable parking at a new Atkins Corner center should:

- Use many smaller parking lots rather than a few huge lots such as traditionally used by “Big Box” stores. This creates a more pedestrian-friendly landscape and allows maximum peripheral shading and, consequently, less heat island effect and less need for air-conditioning in adjacent buildings.
- Make maximum use of shared parking.
- Reserve some prime spots for designated “carpooling only” spots.
- Provide on-street parking wherever possible along new “Main Street” and the lower level access street linking the

new Main Street north to Bay Road and the desire line path to the Hampshire College Campus.

- Investigate a shade tree ordinance or performance standards specifically for parking areas.
- Use lighter colored paving materials (higher heat reflectance).
- Incline parking lots to sides and use wheel stops rather than continuous curbing. This will allow run-off from parking lots to enter bioswales in parking lot islands or in planting verges around their periphery.



An Optimal Location for Public Transit Oriented Development

No matter how "pedestrian-friendly" it is, a project is not sustainable if everyone drives their own car to reach it. Essential to the success of reduced automobile use is the connectivity to public transit, provision of mixed uses so that residents don't have to drive to services, and the accommodation of alternative means of transportation including pedestrian and bike use.

The project's location has considerable promise to be well integrated into the local and regional transportation system given its proximity to PVTA bus systems and the five colleges. Because of the optimal project location, direct tie-ins with public transit can offer reduced automobile use from the site to centers of employment and the colleges. The reduced need for residents of the new village to own one or more automobiles thus reduces requirements for parking for residents, and all the resulting impacts that extensive parking areas, roads, and expanses of impervious surfaces can create. It is not assumed that all residents of the new village will be self supporting in terms of transportation, and that many will want/need to own cars. But, if the new village can promote alternative transportation particularly during the peak hours of commuting travel then the increases of traffic on both Bay Road and Rt. 116 can be minimized.

Accommodation of public transit is a relatively simple matter. Locations for bus stops should be accessible, attractive, and well integrated with the village center plan. Connections to transit stops from neighborhoods should be similarly designed so that people see the facility and are comfortable using it.



Atkins Corner is well positioned in the town to be an extension of the current system of sidewalks and bike lanes along Rt. 116 that currently extend to and even past Hampshire College. These elements will be integrated into the village design so that safe walkable connections to the college, South Amherst center and Amherst center can be achieved. Ease and comfort of walking will also be essential with the village center so that residents and people who work there will not need to drive around for their errands.

Traffic calming - an important part of the solution:

Whereas traditional village centers relied on their public streets to be the center of civic life—the unifying element of community that people’s homes and businesses related to—the current condition of Rt. 116 is not so positive. Relatively high traffic speeds, confusing intersections, and congestion occur at the intersection of Rt. 116 and Bay Road. Much more of the same is yet in store with the development of the cultural village at Hampshire College and growth in regional traffic, and will contribute to Rt. 116 and Bay Road being barriers to the sense of community at Atkins Corners. As the project progresses, the plan has included possible designs for the intersections, conceived as separate from the larger village center. The roads have been designed to reduce traveled speeds and maximize automobile safety as well as safety for bikes and pedestrians. Best practices from regional/national traffic calming tools have been integrated to promote a walkable neighborhood center, to have streets that are safe, attractive, comply with the provisions of the Americans with Disabilities Act (ADA), and function efficiently. The most important job in this task has been to be sure that the design for the road is well integrated with the village design.

Major design points for Route 116:

As the area's through-road, other local roads are subservient to the flow of traffic along Route 116.

As the project to improve this intersection moves forward to funding and implementation with the Massachusetts Highway Department, design criteria will need to be defined including: design speed; clear zones; warrants for turning lanes and signals; etc. The town will need to advocate for a roadway design for speeds that can be more compatible with the village setting. Current speeds and other traffic patterns will need to be further documented and a case made for a slower, safer road. Road lanes and shoulders should be compatible with the overall character of Route 116. Bike lanes from South Amherst are assumed to be continued through the project area. Sidewalks or a shared use path are also assumed to be extended to the corners and to the various destinations at the Corners area.



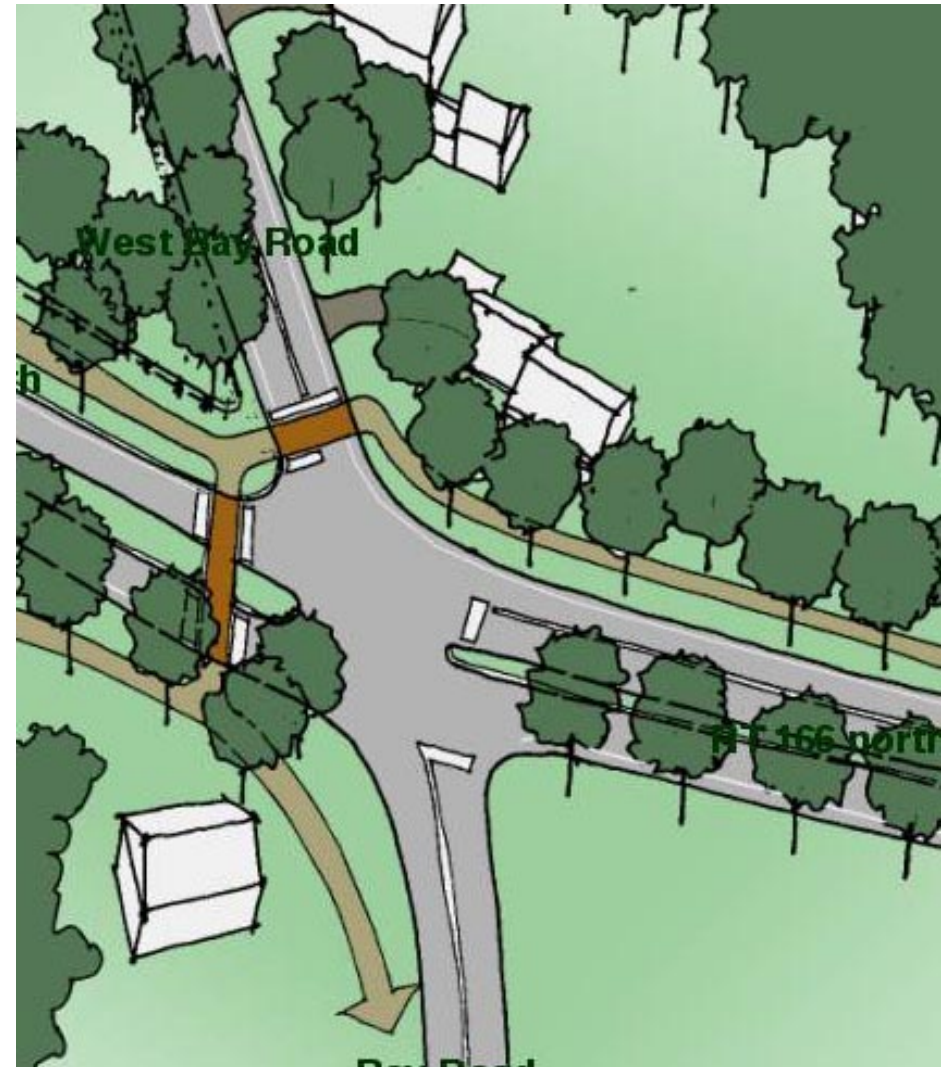
West Bay Road:

Since local road standards apply to West Bay and Bay Roads, the town has much more flexibility to tailor the road's design to local needs. Slower speeds are an essential part of making the area pedestrian friendly and safe. Prevailing high speeds on the approach from the west on West Bay Road are a challenge. Provision of traffic calming islands intended to separate lanes of two-way traffic and lower vehicle speeds ("splitter islands") is a natural part of the design solution for the Atkins Corner area. This serves to promote safe pedestrian crossings, ADA accessibility, and other village design criteria.

Route 116 and Bay Road Intersection Design Objectives:

Objectives for this intersection should include the promotion of safe, moderate speeds, minimized delays for Route 116, and maximized safety for vehicles, pedestrians and bicyclists. Safe crossings to adjacent trails and between adjacent land uses should be promoted. The intersection should additionally be attractively designed, not overbuilt or "engineered", to be compatible with the rural character and future village character of the area. Safe, efficient design alternatives to signals should also be promoted.

The intersection of Route 116-West Bay-Bay Road (below) is reconfigured to spread apart the congested, unsafe double “Y” layout of the existing intersection by making a central green and shifting the road locations of West Bay Road/Route 116.



The intersection at Route 116, West Bay and Bay Roads is realigned to form a modified T-intersection that could work with stop control on Bay-West Bay Roads and Route 116 as a through road. In the future, when signal warrants are met, the simple intersection form will lend itself well to a signal. Crosswalks from sidewalks and bike lanes are provided with pedestrian refuges on Route 116. A left turn lane for Bay Road is included.

Southeast of the new green, Route 116 is treated as more of a parkway—or boulevard—with a landscaped median and pedestrian crossing refuge to the trail to Epstein Pond.

Pedestrian Crossing

Boulevard Divider

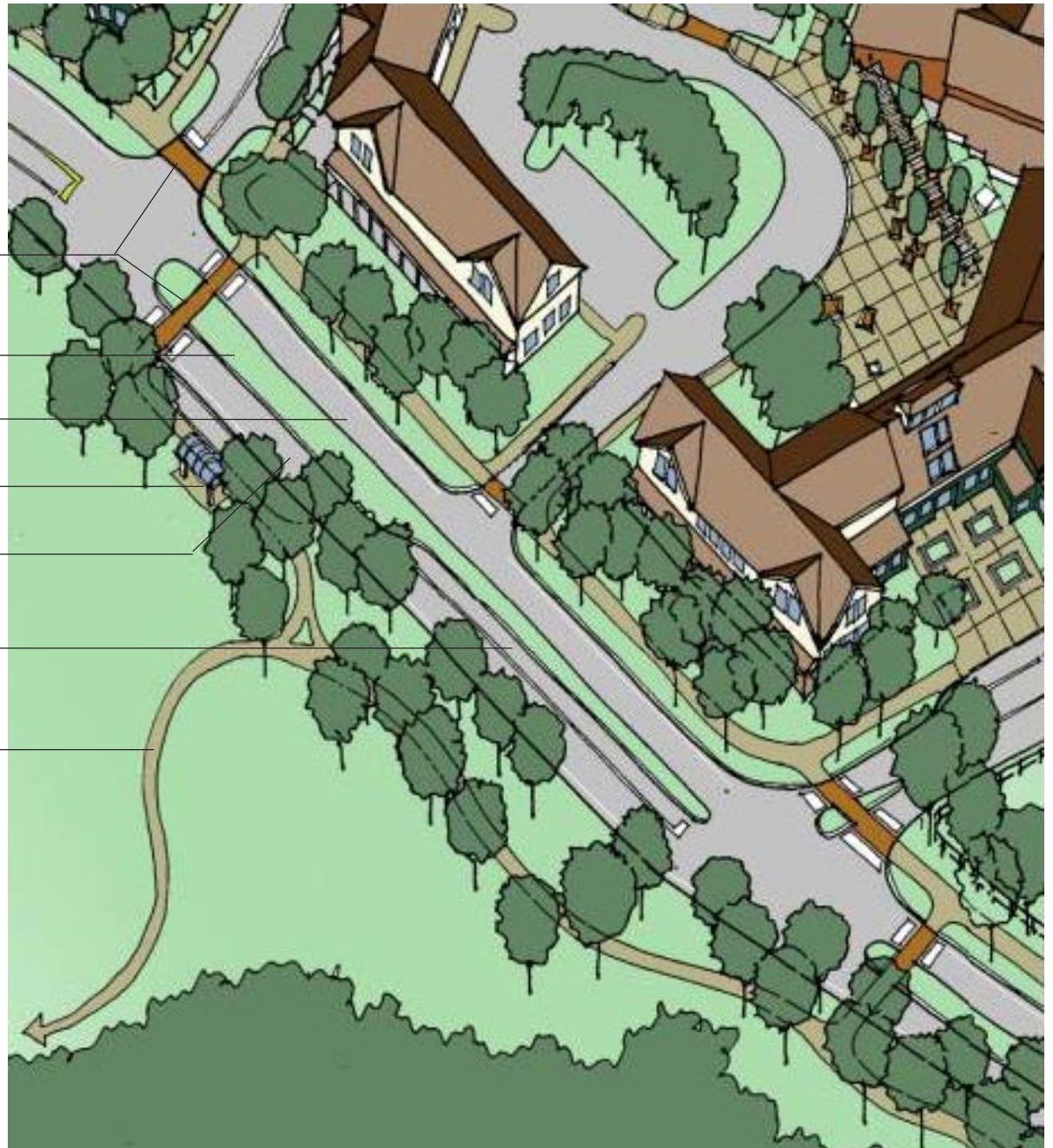
116 Southbound

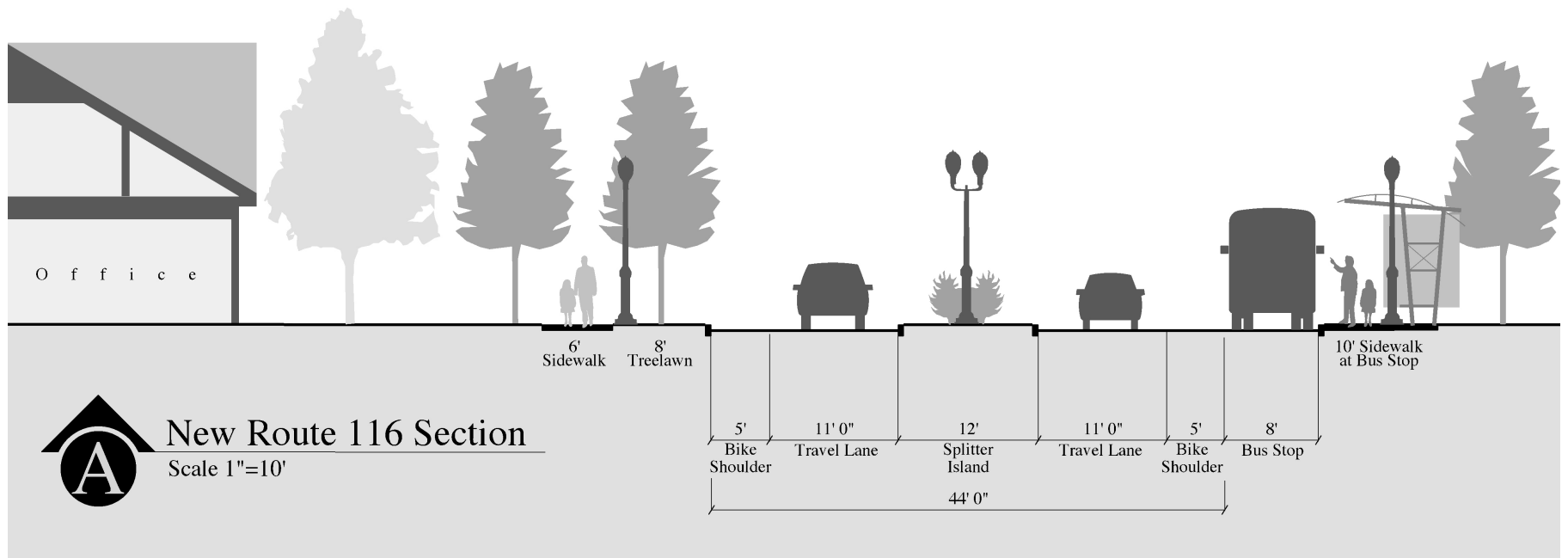
Bus stop

116 Northbound

Left turn Lane

Informal Trail Connection
to Epstein Pond.





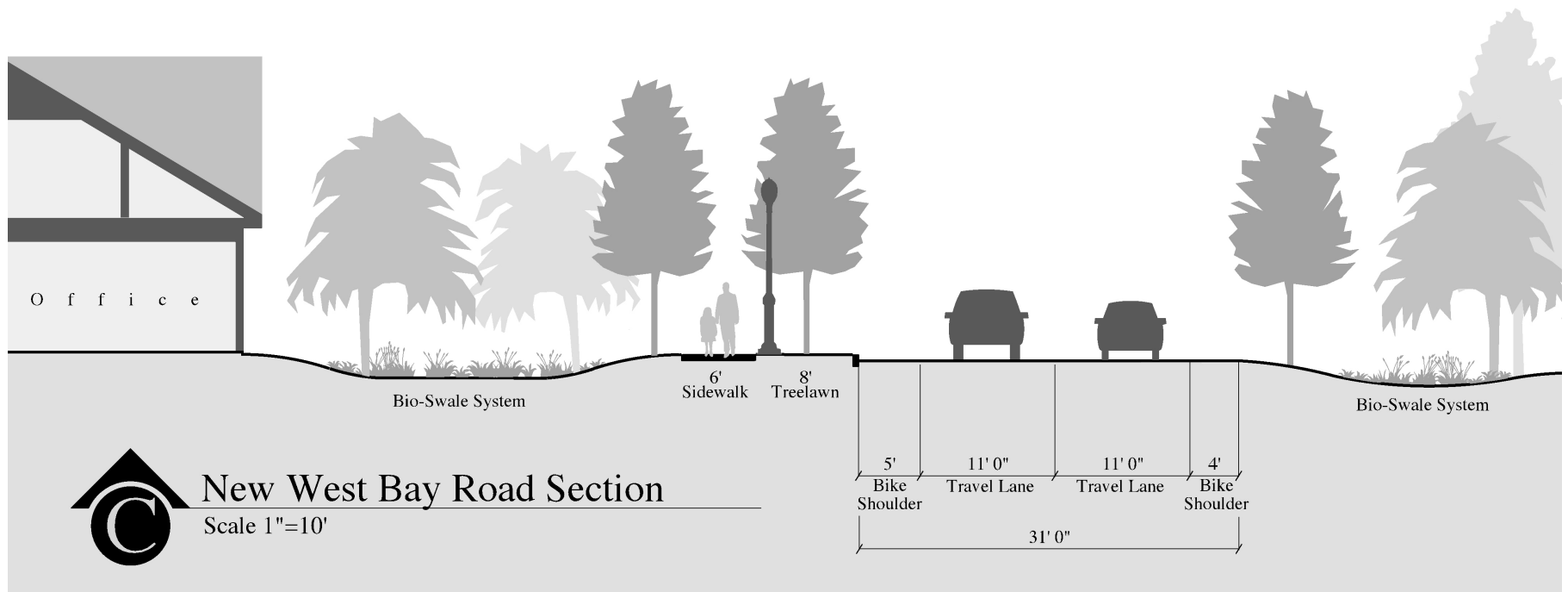
Street section looking north on Route 116 showing median, Atkins Corners growth center buildings facing Rt. 116, and trailhead/transit stop.



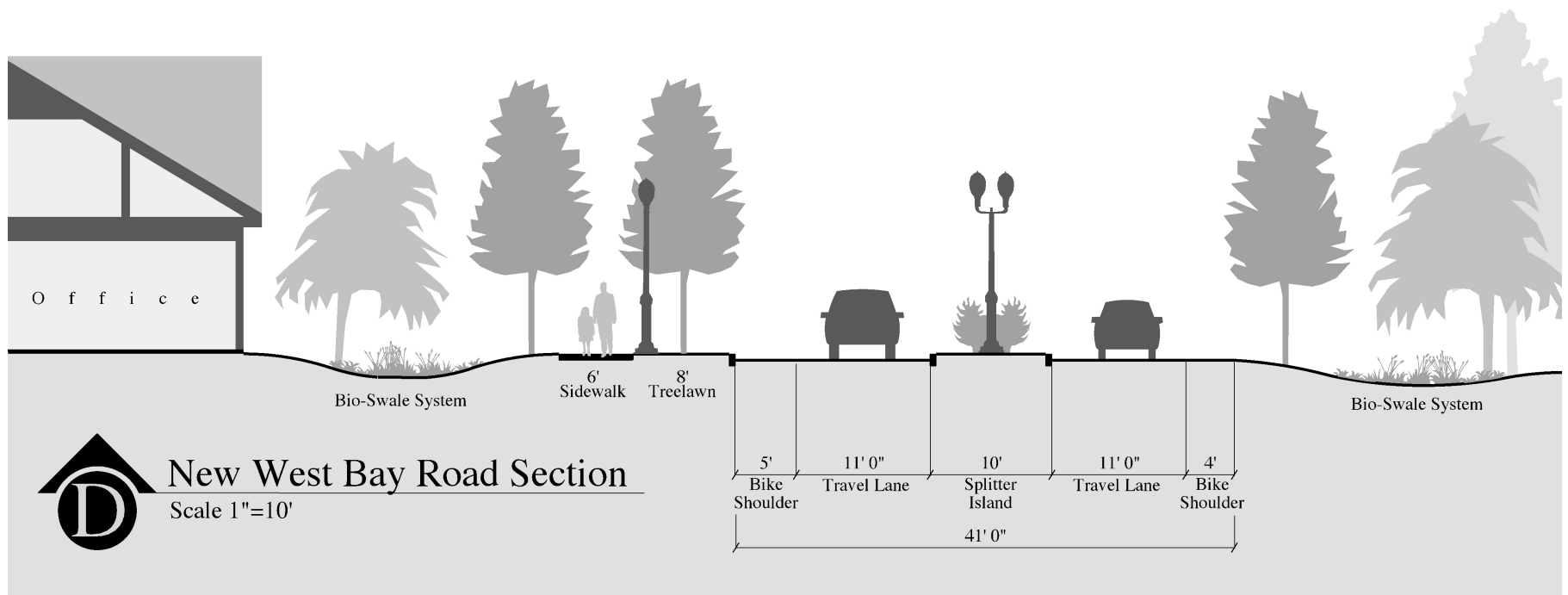
Left: View of West Bay Road frontage along new Atkins Corners growth center. West Bay Road is enhanced with bike lanes, sidewalks, bio-swales for stormwater treatment, and traffic calming splitter islands at the entrance to the center cross streets. The splitter islands will reduce traffic speeds by 10-25% for traffic approaching Atkins Corners.

Right: Detail of splitter islands. This location is also where a crosswalk should be located connecting Atkins Corners to the Hampshire College property immediately to the right.

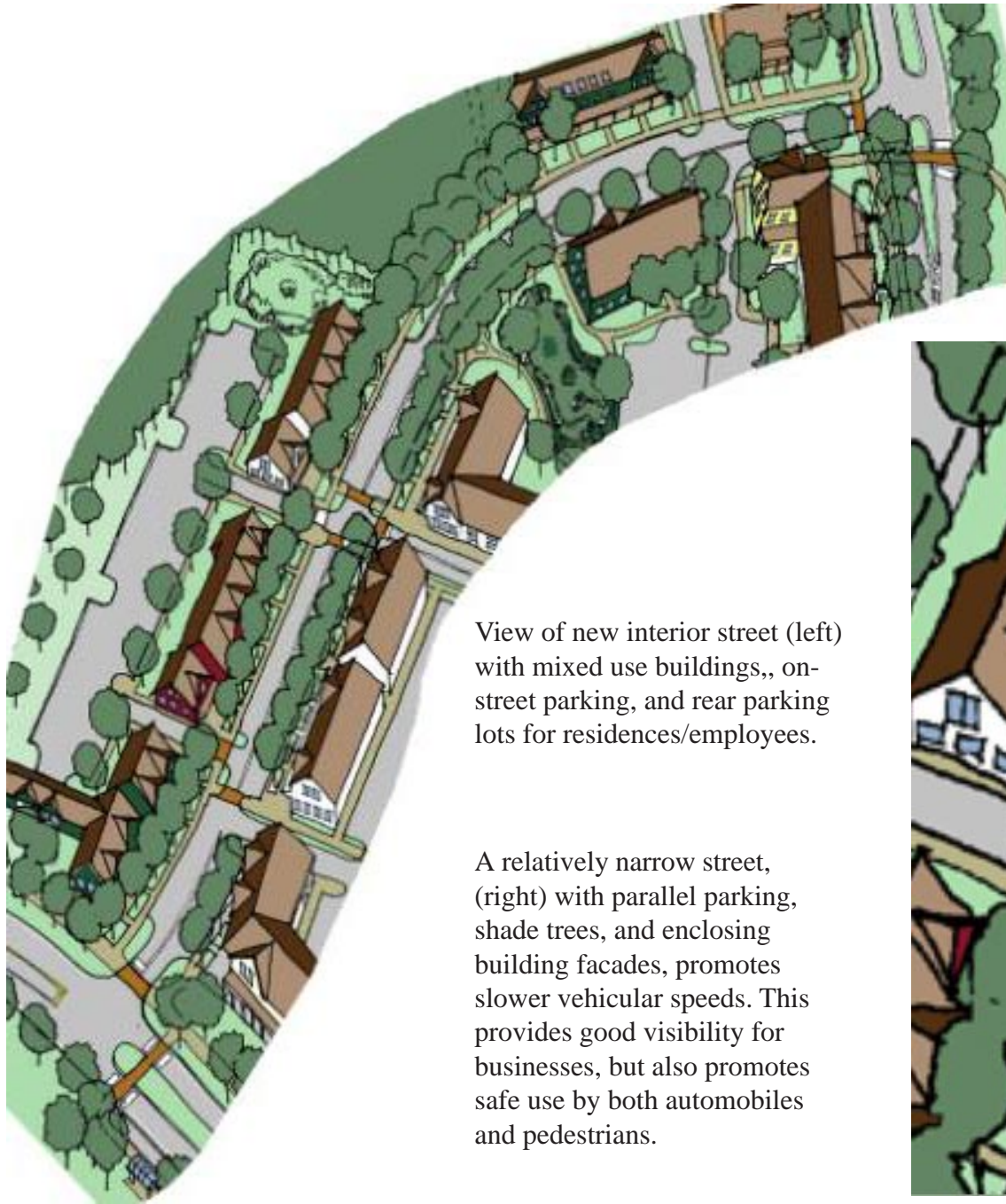




Street section view of Bay Road showing frontage with new development, street trees along the road, sidewalks and trails.



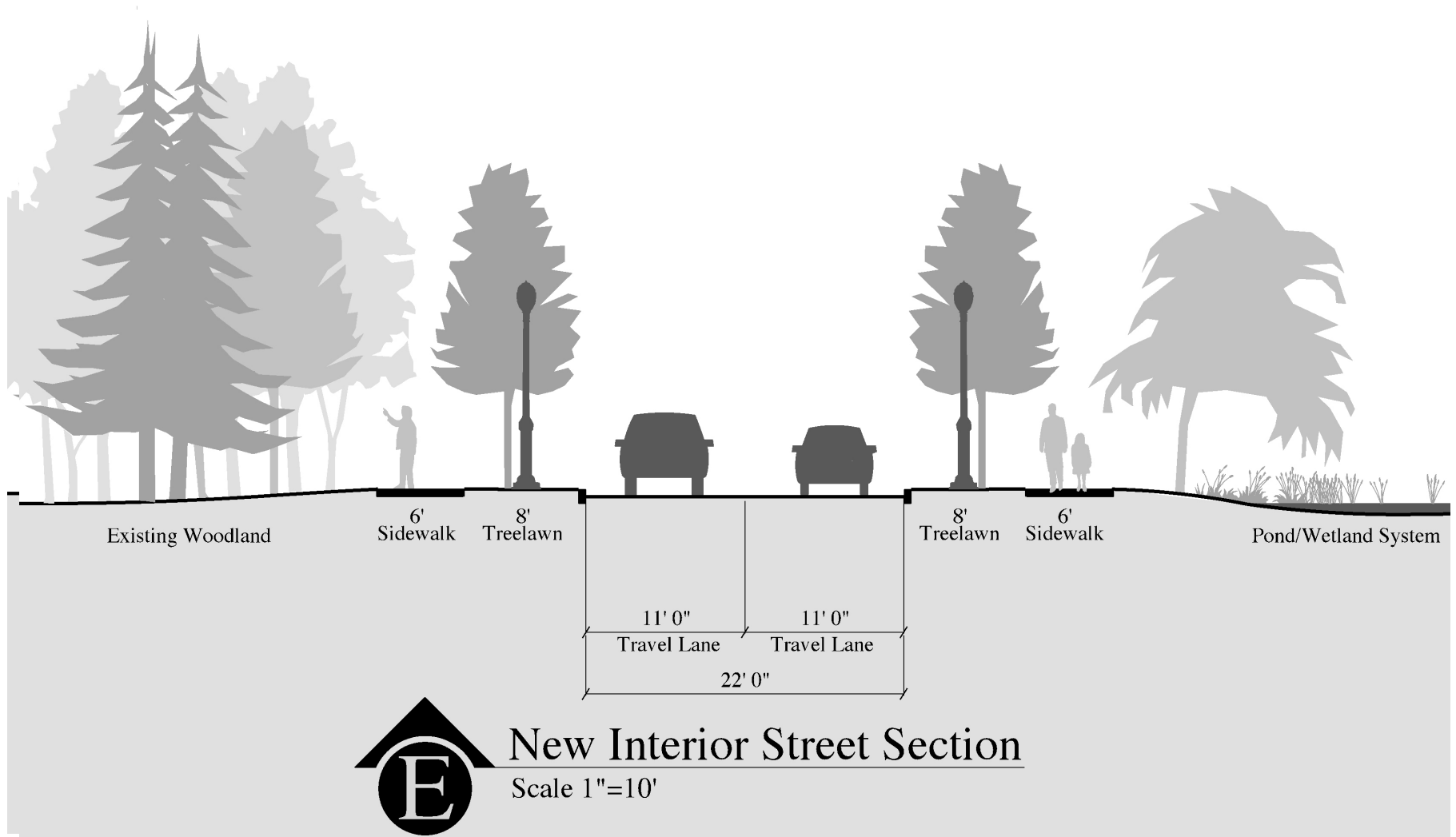
Street section view of Bay Road showing width of splitter island.



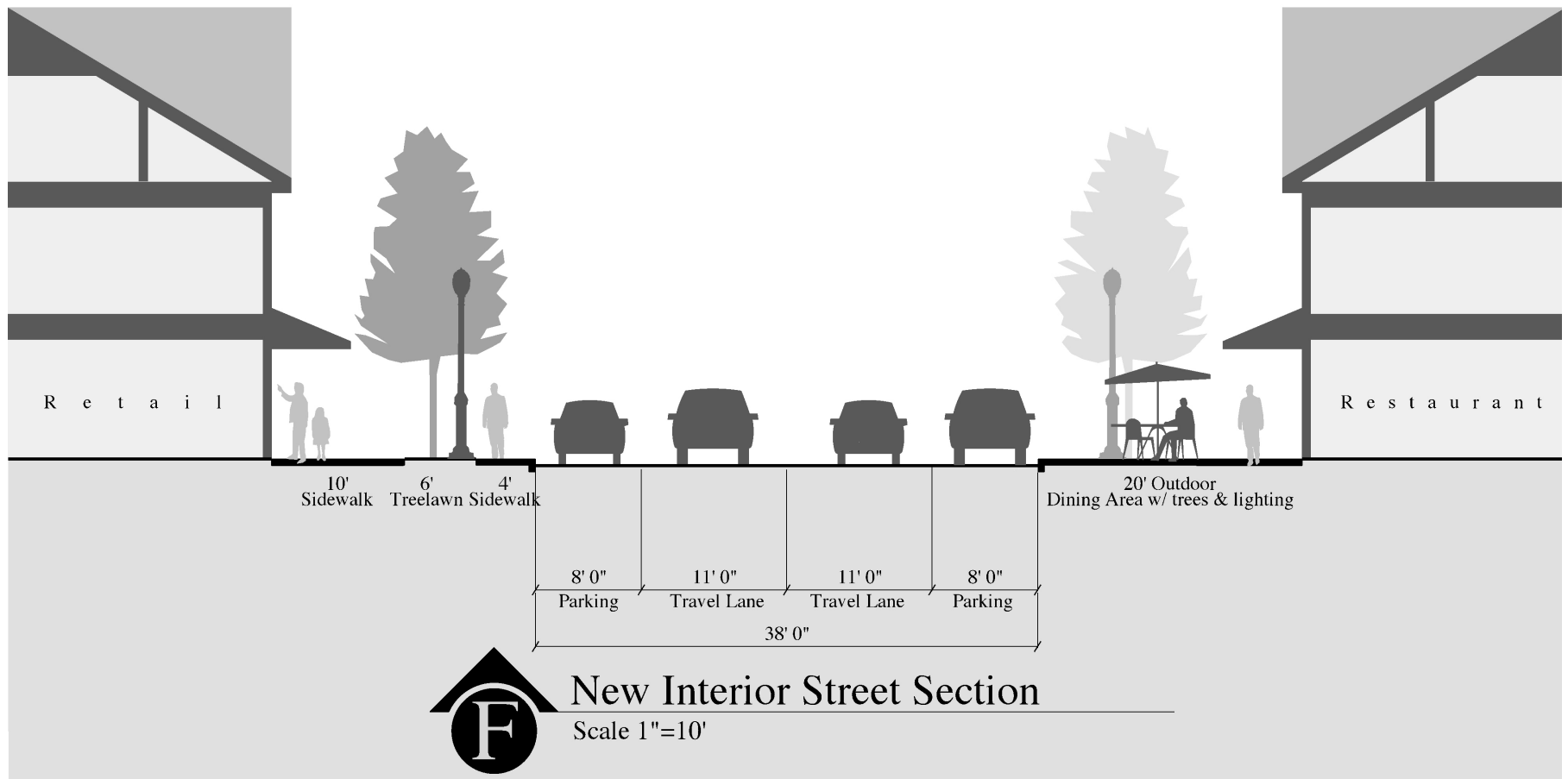
View of new interior street (left) with mixed use buildings,, on-street parking, and rear parking lots for residences/employees.

A relatively narrow street, (right) with parallel parking, shade trees, and enclosing building facades, promotes slower vehicular speeds. This provides good visibility for businesses, but also promotes safe use by both automobiles and pedestrians.





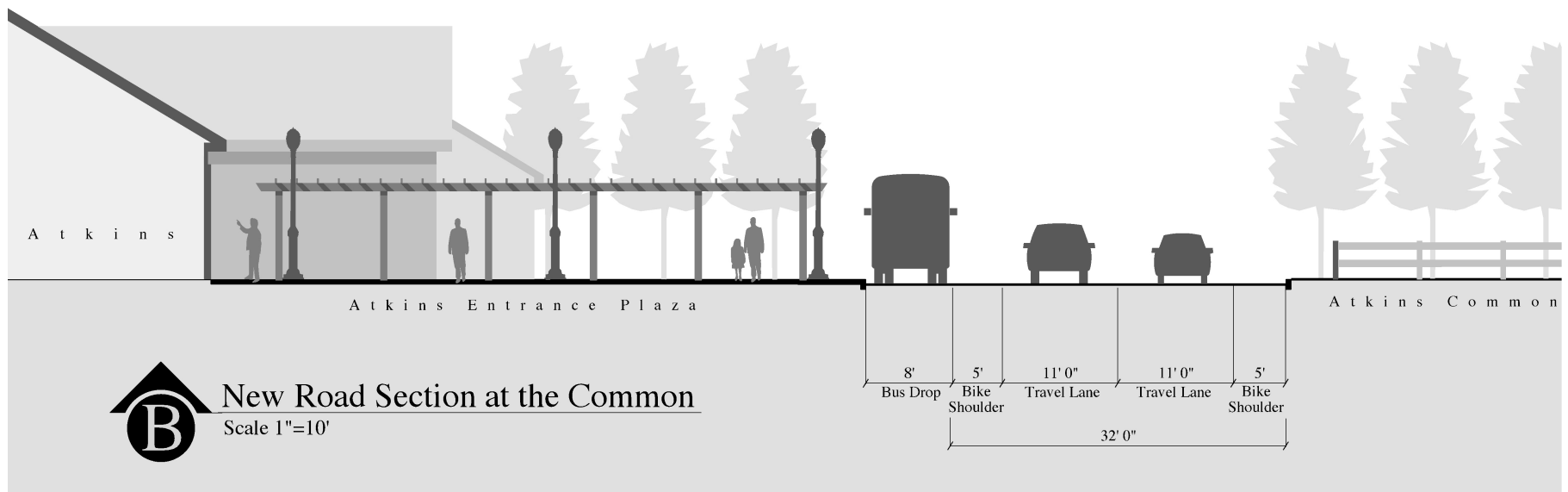
View of new interior street in areas adjacent to wetlands, showing sidewalks, streetscape design and bio-swales/wetlands treatment.



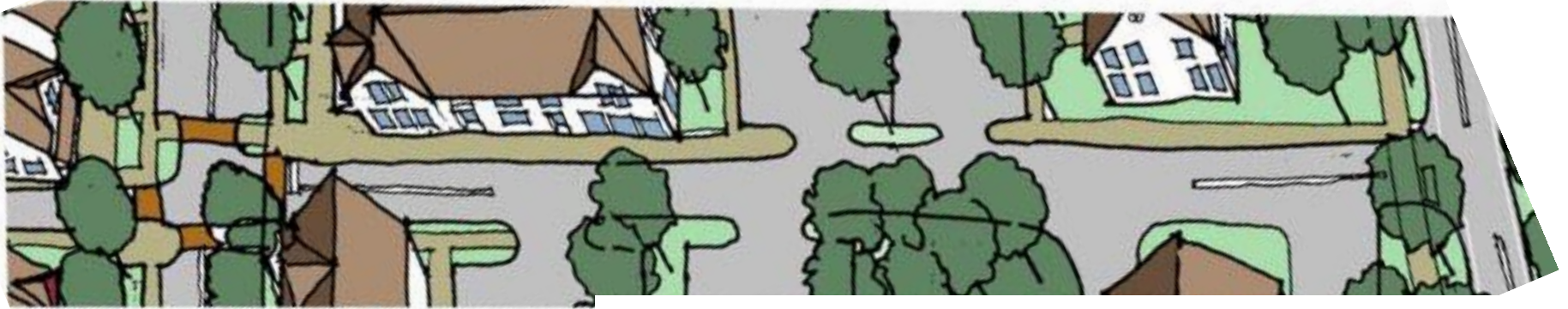
View of new interior street in mixed-use commercial area, showing on-street parking, pedestrian streetscape & building relationships.

Detail of Atkins Corners front entrance at Rt. 116/West Bay Road cross street and PVTA transit stop. Note pedestrian refuge island at the cross street/Rt. 116 intersection.

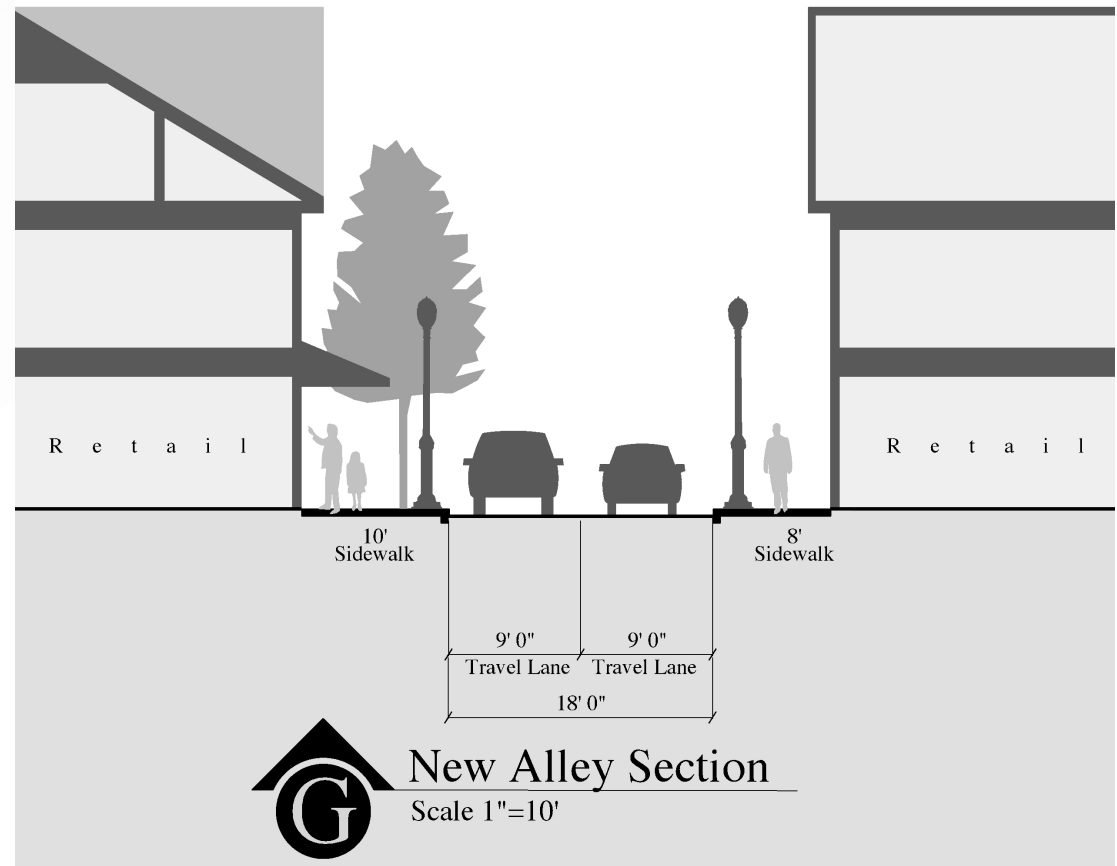




Section through Atkins Market entrance and proposed common.



Connecting alleys allow vehicles to get from one parking lot to another without having to pull out onto the main road. These are narrow, low-speed streets, but include two nine-foot travel lanes, and generous sidewalks.



Chapter 10 - Stormwater Management

A bioswale is integrated into the verge treatment along the south side of West Bay Road and picks up, slows and filters run-off from new areas of impervious roofs as well as from the road itself.

The plan adopts the principle of letting the site's hydrology express itself and cross through the new center. Drainage ditches are replaced with a series of linked, constructed wetlands that provide biofiltration for run-off close to its source. In addition this new system provides a buffer and protection for the existing wetlands immediately to the southwest.

Areas of unfragmented wetlands and drainages are preserved as such.



"Bioswales" in parking lot islands provide biofiltration to remove pollutants such as phosphorus, hydrocarbons and heavy metals from stormwater run-off from the lots.

A large buffer area of orchards and adjacent filter strips of meadow grasses mown once or at the most twice per year provide sediment control and infiltration for run-off from Rt. 116 before it enters the Epstein's Pond system to the east.

Stormwater Management

The proposed Atkins Corner Plan promotes sustainable stormwater management on several different levels. On the large scale, the plan protects the large wetland areas on both sides of the site with additional open space on the Ives parcel and adjacent to Epstein Pond. Meanwhile, the principal drainage across the interior of the site has been preserved as a series of ponds and connecting swales that treat stormwater while providing a visual amenity. This provides an extensive level of pre-treatment before water reaches existing wetlands. On the small scale, the plan uses so-called Low Impact Development (L.I.D.) techniques to treat run-off close to the source.

Planning for Stormwater Management

The site is part of a larger hydrologic system that drains east into Epstein Pond and Sweet Alice Brook. Extensive wetlands lie uphill to the southwest of the development site and north on the Ives parcel. The plan concentrates development in areas where runoff can be captured before it reaches any of these sensitive areas. Realignment of 116 allows all the open space east of the roadway to be permanently protected, providing an additional buffer to Epstein Pond beyond that required by law. These verges could also contain infiltration areas where runoff

could drain back into the ground before reaching the pond. Within the site, a series of open ponds and constructed wetlands will capture runoff from roofs and parking lots. These areas will remove sediments and nutrient pollutants and store the runoff from intense summer storms so it can be released gradually into the existing wetlands. These ponds and wetlands, moreover, will be designed to appear “natural,” with irregular edges and plantings of native trees, shrubs, and wetland plants. The resulting scheme uses these necessary “plumbing fixtures” as a positive visual amenity; and because they are in full view they serve to demonstrate more sustainable approaches to stormwater that work with nature.

Low Impact Development (L.I.D.) Techniques

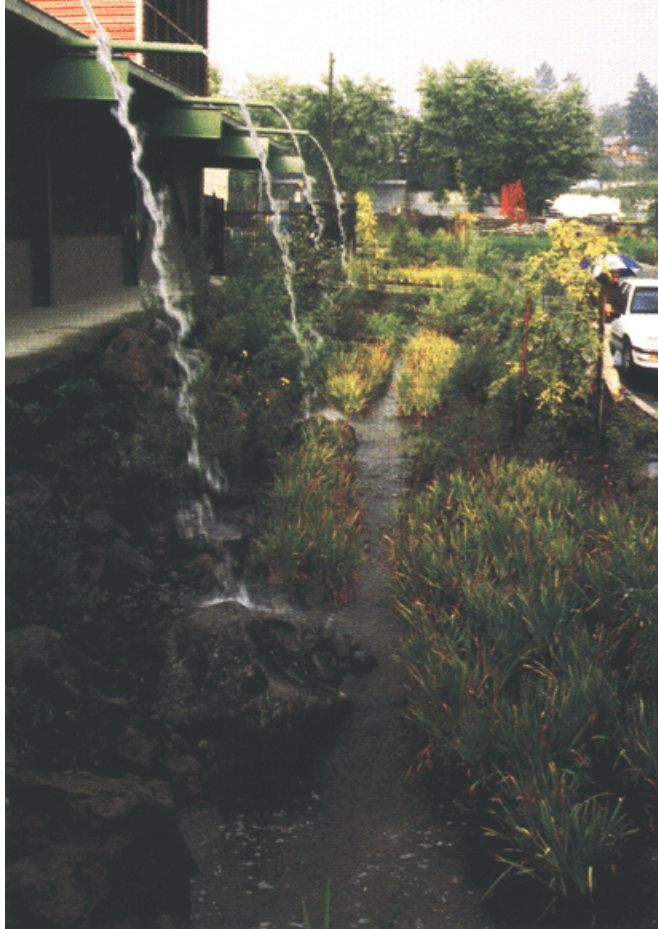
Low Impact Development is an approach to stormwater treatment that uses many different techniques and design ideas to reduce flows, remove contaminants and re-infiltrate water as close as possible to its source. The result is that less water leaves the site, and when it does it’s cleaner and released more gradually.

A series of L.I.D. techniques promote on-site reduction and filtering of stormwater:

- Rain gardens and micro-detention
- Infiltration tree planters

- Vegetated Rooftops, Rooftop Gardens and Terrace Gardens
- Rain Barrels/Cisterns for irrigation as needed (particularly of ever-increasing new trees)
- Vegetated Swales, Buffers and Filter Strips
- Roof leader and downspout disconnects so run-off is pitched into bioswales around buildings rather than into parking lots or piped drainage systems
- Permeable Pavement
 - Parking areas including travel lanes
 - Unit Paving only under parking stall areas as opposed to traveled way.
 - All lots pitched to sides into bioswales as opposed to catch basins and pipes.
 - Preservation and integration of existing trees wherever possible
 - Strategic areas of amended soils (infiltration beds under sidewalks or parking lots) to allow better infiltration, especially in areas with compacted or clay hardpan soils.
 - Pollution abatement and prevention at source, frequent street sweeping and regular maintenance of oil separators

Stormwater Management



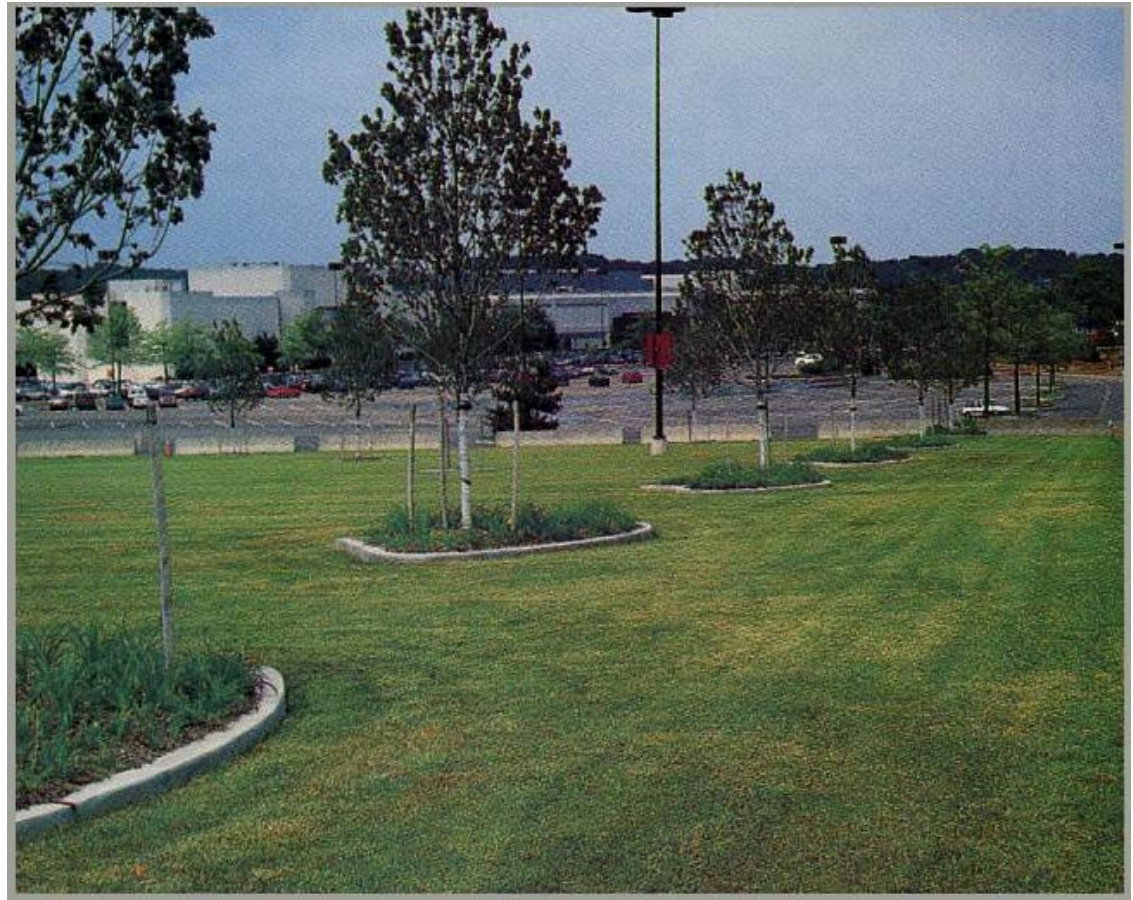
Scuppers -not gutters! Roof run-off at the Water Pollution Control Laboratory in Portland, Oregon is directed into a biofiltration swale and water-garden system instead of being hard-piped. In the process the importance of the hydrological cycle is visibly expressed.



Waterworks Gardens was designed by Seattle artist Lorna Jordan at the East Division Water Treatment Plant in Renton, Washington. The Gardens are intended to communicate their stormwater purifying function both in form and in the actual reality experienced by the visitor. As such they are designed to educate as well as to simultaneously demonstrate the benefits of constructed stormwater wetlands.

Most conventional stormwater treatment systems guide runoff through a series of pipes and swales into a detention pond, which is designed to slow runoff and maintain the existing rate of runoff from the site. On both large and small scales, the proposed plan will not only slow the *rate* of runoff, but actually reduce the total *amount* of runoff to something close to pre-development levels. Together with design that incorporates ponds, wetlands and water channels into the landscaping of the site, the result is a stormwater system that produces less runoff, filters pollutants, and provides an attractive amenity for the development.

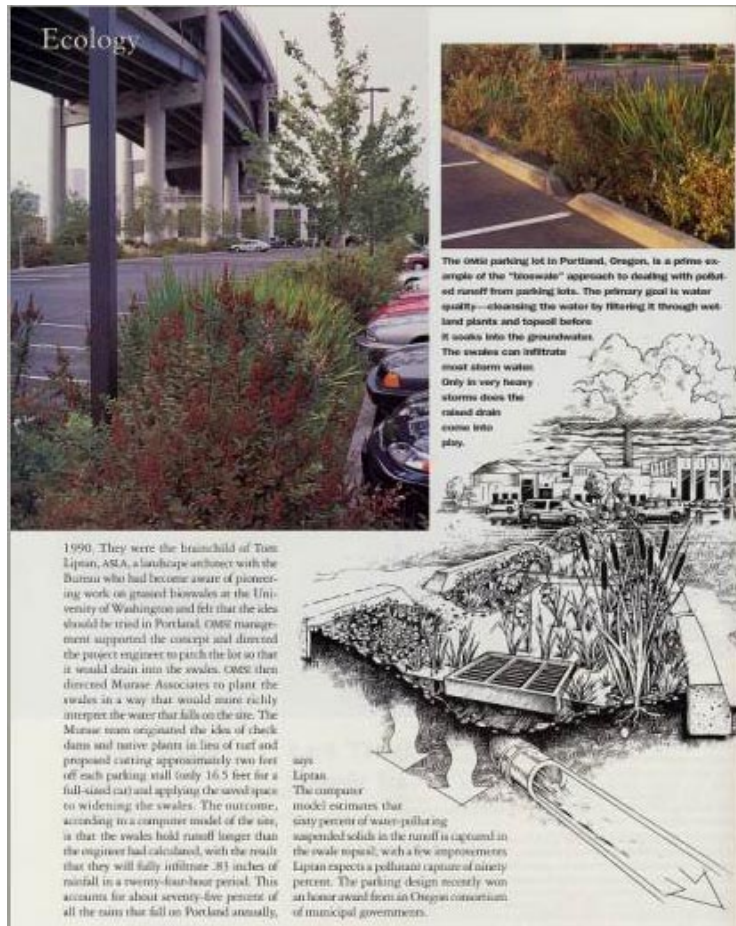
Overflow Parking lots on grass reinforced with plastic, honeycomb-type cell structures increases infiltration and dispersal of run-off. These areas are difficult to construct so that they hold up to repeated plowing in winter but are suitable for use at other times of year (such as fall weekends when Atkins Farm Market has their peak parking demand). This photo shows permeable, grass paving at Westfarms Mall in Farmington, Connecticut.



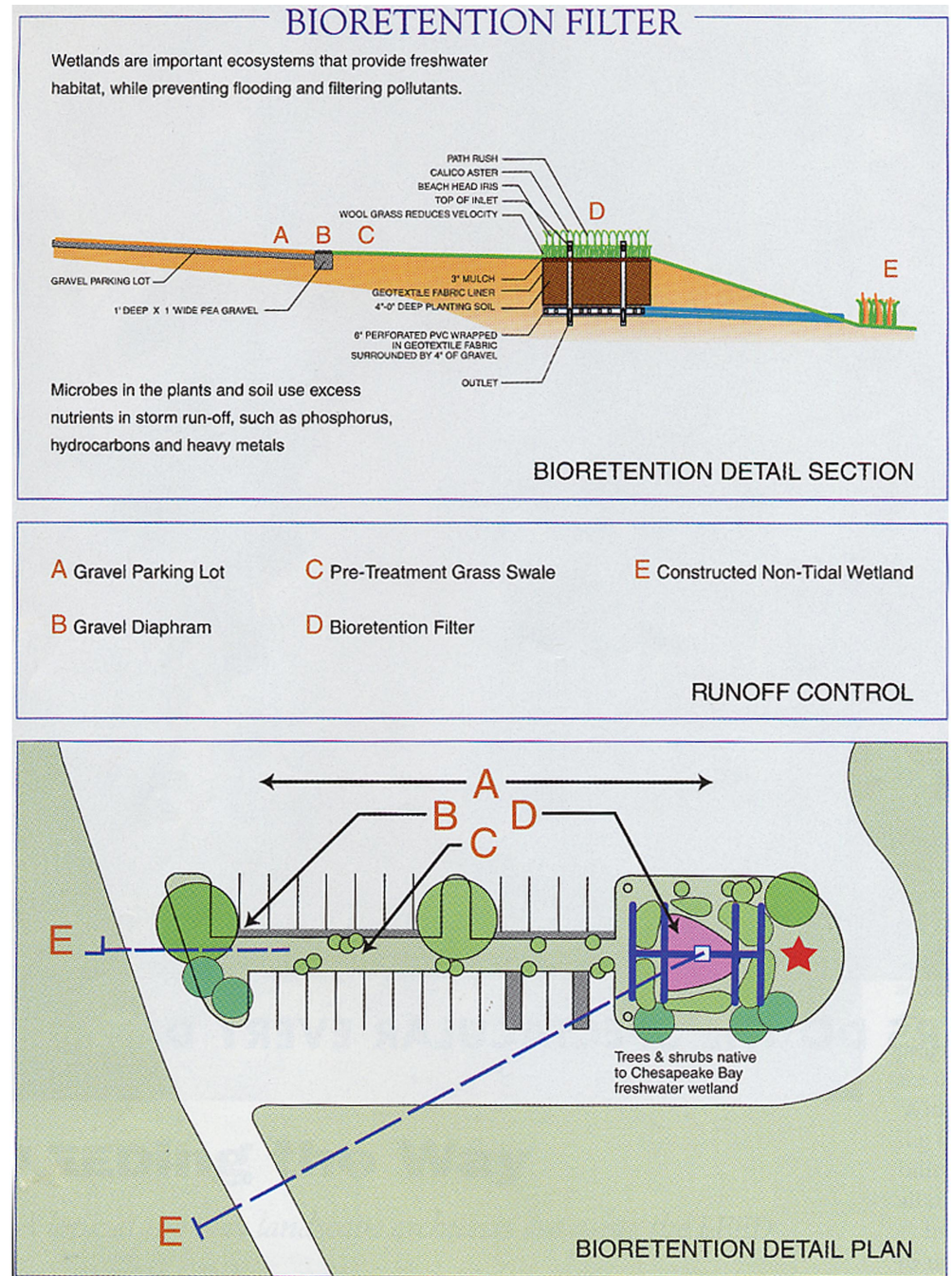


Pervious paving (concrete pavers w. grassed joints) in the stall area of parking lots in a freezing climate subject to plowing. Curb stops are used instead of a continuous curb. This allows run-off from the lot to enter the grass swale located in the adjacent island. It should be noted that the grassed, bio-filtration swale and parking lot shade tree plantings are not incompatible as demonstrated in this photo.

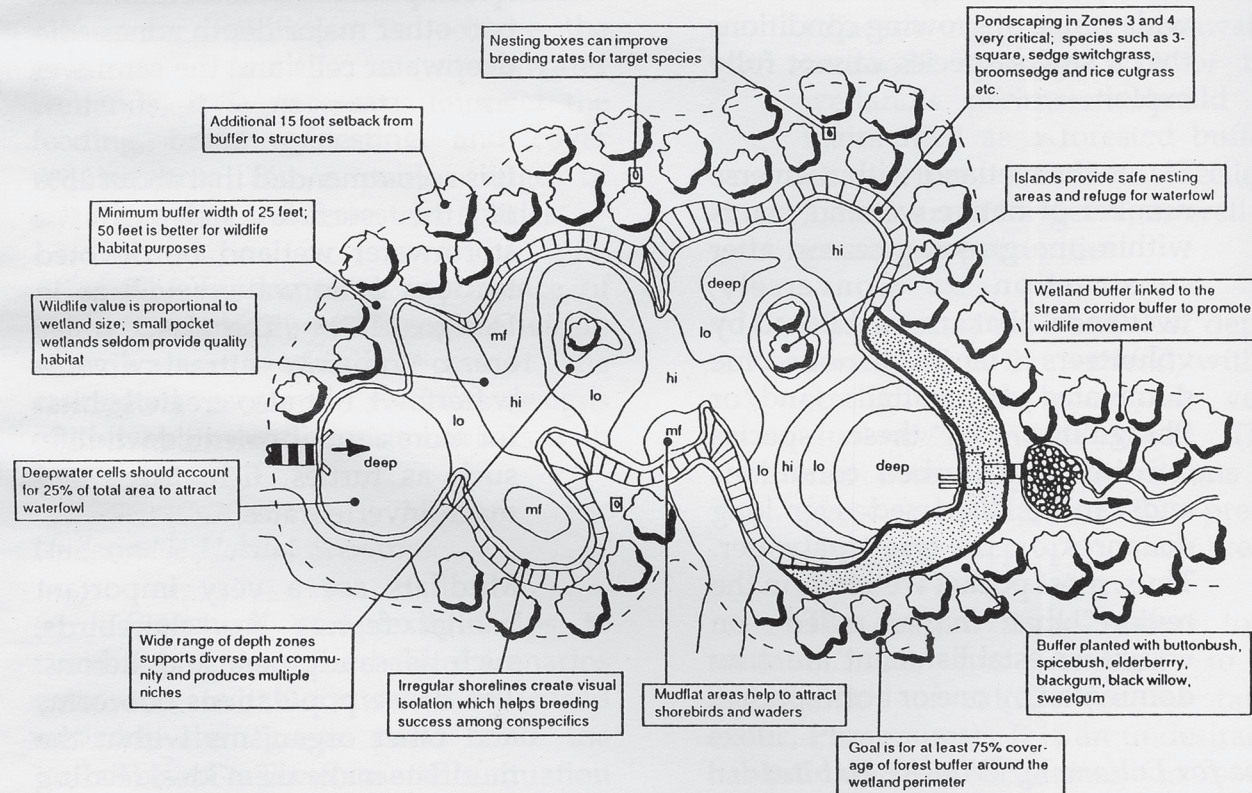




Details of parking lot "bioswales" or bioretention filters. Above is parking at the Oregon Museum of Science and Industry designed by Tom Lipton, ASLA.



Techniques for Enhancing Wildlife Habitat in Stormwater Wetlands



from: *Best Stormwater Management Practices*.

T. Schuler, Washington Metropolitan Council of Governments

The designer has many options to improve the quality of aquatic and terrestrial wildlife habitat in larger stormwater wetlands. Emphasis should be placed at meeting the feeding, nesting and cover requirements for target species. Complex shapes, forest buffers, and a wide range of depth zones help to promote diversity.

Chapter 11 - Conclusion

Citizen and community involvement will be critical to implement the Plan vision and to encourage that its spirit and recommendations be adopted by developers and their designers.

Ultimately, achieving the vision embodied in the Atkins Corner Plan will depend upon the citizens of Amherst including its businesspeople and developers. They will have to scrutinize new development proposals in light of the vision put forward in this Plan. They will have to speak out in clear and active support of those development proposals which seek to implement this vision for a better form of growth.

The Atkins Corner Plan and the design model that it embodies are a critical step toward achieving the Town's vision of vibrant, attractive and economically viable new growth centers which at the same time are sustainable and maintain or enhance existing character and natural systems. The Atkins Corner Plan puts this vision in a more widely achievable form by presenting a model of what could be adapted and recast at other sites in Town to form the basis of a new and more sustainable pattern of development.

The existing Zoning in the area will have to be changed to encourage the type and forms of mixed-use, sustainable development shown in the Plan. The boundaries of existing zoning

districts in the area will have to be adjusted to allow the expansion of the new sustainable center zone to include the Right-of-Way of the current Rt. 116 and to include the part of the current R-O zone that will then be west of the new, re-aligned path of Rt. 116.

These necessary zoning and regulatory changes will need to be actively understood and supported by the Community and stakeholders in the area in order to be adopted at Town Meeting.

Education about sustainability and the natural and cultural processes that it is based on should continue as a primary goal. This can be achieved by implementing the smaller and most discrete pieces of the Plan in such a way as to express sustainable principles and to actively educate and interpret them for those who use them. A good example of this is the current proposal to design and construct a new bus shelter for the Atkins Farm Market in such a way that it demonstrates sustainable principles (photovoltaics, techniques for capturing run-off water from the roof and using nearby bioswales to filter it) and actively interprets them for the general public.

At the same time it is critical that the Amherst community keep in mind that sustainable design and development are holistic in nature. As such they are based on working within complete and interrelated natural, cultural and

economic systems in a way that reevaluates past approaches "from the ground up" and is truly innovative. In this sense sustainable development is not a piecemeal retrofit of past practices but is a complete rethinking looking to establish a new, more interrelated and more responsible system. In the words of Carol Franklin of Andropogon Associates, Ltd., "Sustainable design is not a reworking of conventional approaches and technologies, but a fundamental change in thinking and in ways of operating - you can't put spots on an elephant and call it a cheetah." (as quoted in Guiding Principles of Sustainable Design, National Park Service Publication NPS D-902).

The Amherst community has the knowledge and diversity of outlook and experience to help create a new and positive type of truly sustainable development at Atkins Corner. In order for this to happen the community will have to actively engage with, support and provide incentives for landowners and their designers to strive to create and perfect new forms of development grounded in this special site, its interrelated natural systems and cultural landscape. Hopefully this will be the start of a process of innovation, testing and refinement that will provide a template for creating a sustainable development process throughout Amherst and the region.

Appendix: Selected Resources

Recommended Books:

Guiding Principles of Sustainable Design

National Park Service, Denver Service Center,
September 1993
Publication NPS D-902, GPO publication # GPO
777442

-A seminal publication and still one of the best
overviews of all aspects of sustainability.

Better Site Design: A Handbook for Changing Development Rules in Your Community

-An excellent resource for the average
citizen, clearly argued and illustrated.

Center for Watershed Protection, 1998
8391 Main Street

Ellicott City, Maryland 21043

(410) 461-8323 web: www.cwp.org

An authority in research and practical applica-
tions leading to watershed protection. The
Center also publishes The Practice of Watershed
Protection, a comprehensive compilation of
articles from all past issues of the Center's
technical journal, *Watershed Protection Tech-
niques* and Consensus Agreement on Model
Development Principles to protect Our Streams,
Lakes and Wetlands.

Best Development Practices

Reid Ewing, 1996
American Planning Association
122 S. Michigan Ave., Suite 1600
Washington, D.C.

Low-Impact Development Design Manual

Larry Coffman. 1997

Published by the Department of Environmental
Resources

Prince Georges County
Maryland

Getting to Smart Growth: 100 Policies for Implementation

Smart Growth Network and International City/
County Management Association (ICMA).

Available online at [www.smartgrowth.org/pdf/
gettosg.pdf](http://www.smartgrowth.org/pdf/gettosg.pdf).

Recommended Web Sites:

www.sustainable.doe.gov/ (U.S. Department of
Energy's Center for Excellence for Sustainable
Development) Very comprehensive resource
with sections on Green Building, Green
Development, Land Use Planning, Measuring
Progress, Community Energy, Transportation,
Sustainable Business, Rural Issues and others.
Each section includes principles, articles and
publications, examples of codes/ordinances and
case studies. The site includes multiple links to
other websites and organizations.

www.epa.gov/npdes/menuofbmps/pdf/small-files

The U.S. Environmental protection Agency's
Phase II Stormwater Regulations' Stormwater
Management Fact Sheets in a downloadable
format. Clear diagrams and drawings.

www.cwp.org

Center for Watershed Protection
[www.stormwatercenter.net/Library/
Practice_Articles.htm](http://www.stormwatercenter.net/Library/Practice_Articles.htm)

Technical ideas for stormwater management and
impervious surface reduction.

www.buildinggreen.com

Publishes *Environmental Building News* and
includes information and links to many other
green building sites.

www.vtsprawl.org

Vermont Forum on Sprawl
110 Main Street
Burlington, Vermont 05401
802 864-6310

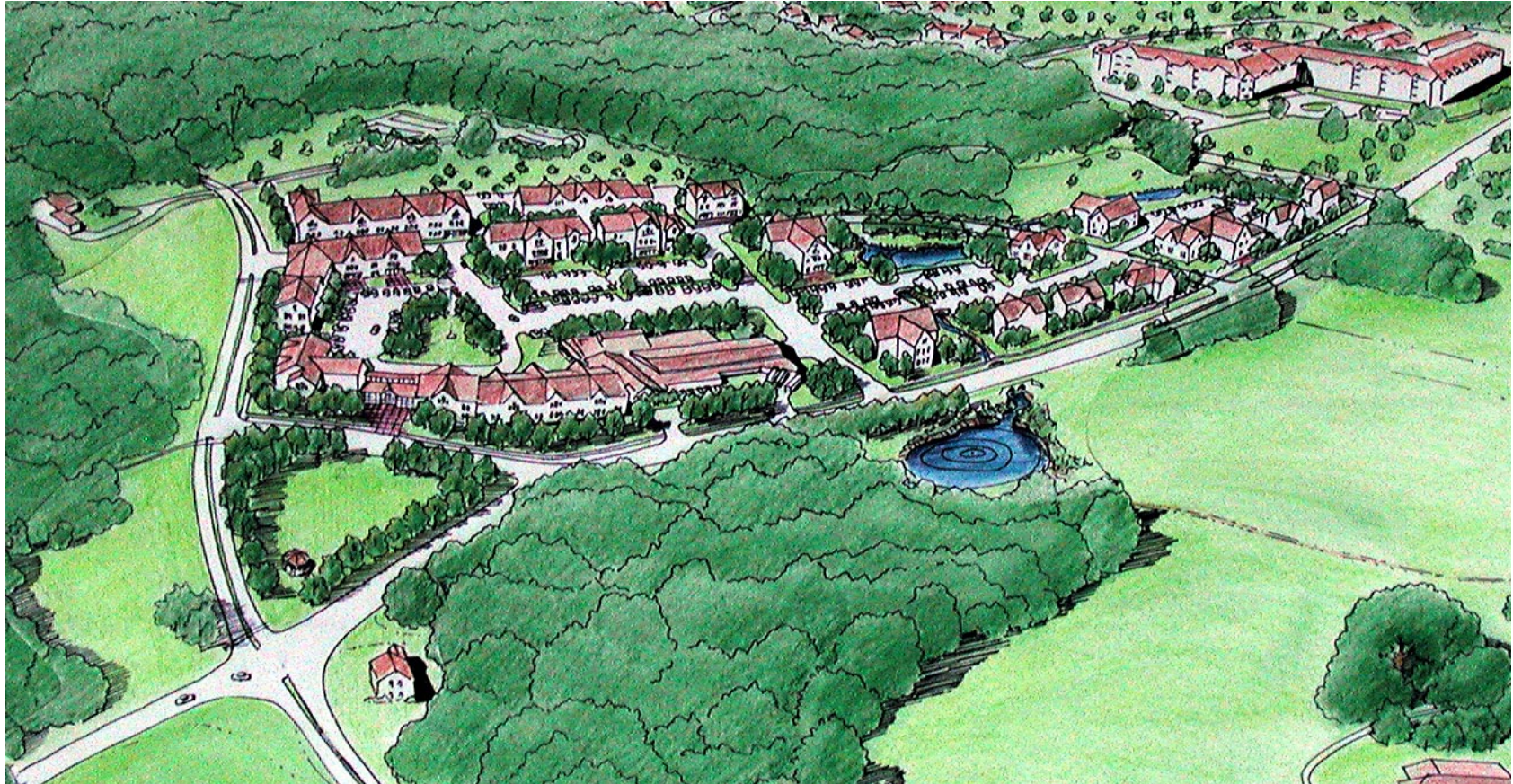
Has developed many excellent, cutting edge
publications and primers specifically on sprawl
and smart growth in Vermont but very applicable
elsewhere.

[www.umich.edu/~nppcpub/resources/Reslists/ arch.html](http://www.umich.edu/~nppcpub/resources/Reslists/arch.html)

Links to 19 of the best Sustainable Architecture
resources. Topics include: appliances, architecture
education, building technology, energy analysis,
energy efficiency, graywater, green design, green
materials, indoor air quality, insulation, lighting,
micro-hydro, solar and wind.

www.smartgrowth.org/

A service of the Smart Growth Network that tracks
up-to-date smart growth initiatives, resources and
publications by region and state. This web site is a
subset of <http://www.sustainable.org>, developed
and maintained by the Sustainable Communities
Network (SCN) and supported with funding from
the US EPA.



Aerial perspective view showing the proposed plan at full build-out. The view is from a point over Rt. 116 just north of the Atkins Corner intersection and looking towards the southwest.